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JOURNAL
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Methods of Selection of Medical Students

ALEXANDER S. BEGG
Chairman, Committee on Medical Education and Pedagogics

We all know that there is a problem in connection with admissions and that there are many ideas as to the solution of its various phases. Some of these ideas will be presented briefly and I hope additional suggestions will come out in the discussion.

Necessity for Selection

The necessity for selection is a new problem to many medical schools, since until the last few years all that need be done was to accept those applicants whose records more nearly approximated the entrance requirement and there was little complaint of an excess of applicants over vacancies. The numbers admitted annually decreased during the period when schools were closing under various kinds of pressure and when this Association and the Licensing Boards were tightening up in the matter of enforcement of entrance requirements.

With this decrease in the number of students admitted, there was a falling off in the percentage of subsequent losses, particularly during the first year of enrolment. More recently, the number of applicants has gone far beyond the number of vacancies, and it will be noted that the percentage of losses is again on the increase. This may be due, in no small part, to a change in standards of evaluation of work done in the medical schools, but in addition there is undoubtedly the added factor that more mediocre students have succeeded in getting just a little farther along in their educational careers and have finally filtered through into medical school.

The important study of Dr. Myers is showing annually the magnitude of the problem which confronts us. I know that there must be other institutions whose trustees are asking why there are so many first year failures, when there are so many applicants for entrance.

To bring this phase of the situation more forcibly to your attention I have taken two sets of figures from the annual reports of the Committee on Medical Education and Hospitals of the American Medical Association, so that it will be easy to see the relation of ad-

missions to losses. I must point out that there is no classification of losses into various causes, but I suspect that most of them are of a scholastic nature, since Dr. Colwell's report is for those who did not return to medical school.

TABLE SHOWING ENROLMENTS AND LOSSES BY CLASSES

	First Class		Second Class		Third Class		Fourth Class		Totals		Graduates
Year	#	*	#	*	#	*	#	*	#	*	
1925-26	5753	866	4779	270	4201	81	4107	10	18840	1227	3962
1924-25	5492	607	4415	171	4136	30	4157	13	18200	821	3974
1923-24	5160	572	4441	151	4330	53	3797	15	17728	791	3562
1922-23	5162	453	4615	137	3861	29	3794	13	17432	632	3120
1921-22	5412	455	4219	119	3355	25	3154	19	16140	618	2529
1920-21	4825	377	3588	101	2637	26	3822	6	14872	510	3192
1919-20	4234	362	2837	126	3464	34	3553	25	14088	547	3047
1918-19	3104	321	3587	99	3272	30	3089	10	13052	460	2656
1917-18	4283	342	3521	77	2893	30	2933	19	13630	468	2670
1916-17	4107	344	3117	92	2866	36	3674	17	13764	489	3379
1915-16	3582	345	3094	129	3559	55	3727	29	14022	558	3518
1914-15	3373	359	3919	147	3675	52	3864	25	14891	583	3586
1913-14	4684	658	3961	197	3807	68	3955	33	16502	956	3594
1912-13	4564	664	4093	217	3639	91	4444	37	17015	1009	3981
1911-12	5048	704	4063	227	4294	129	4759	48	18412	1108	4483
1910-11		710		388		153		9	19786	1260	4273
1909-10		873		291		218		1	21526	1383	4440
1908-09		371		149		4		3	22145	527	4515
1907-08		350		2		1		0	22602	353	4741

#Enrolled
*Losses

As an Association we have been fortunate in that we have had papers presented at our meetings on various phases of education and we have learned that many of the things which are disturbing to us in our field are likewise causing perplexity in other fields. I think one gets the impression that while remarkable achievements have been accomplished at the bottom and at the top of our educational structure, there is rather a wide zone in the middle which in general has improved very slowly. This at once becomes apparent when we admit, as I think we must, that one of the outstanding causes of confusion in getting at a basis for evaluation of entrance work lies in the large number of widely different institutions which are providing us with our students; institutions with considerable differences as to equipment, teaching staff, aims and ideals and what is even more important wide variations in the values of their estimate of students. The experience of last year was that 80 medical schools had to choose candidates to fill 6,500 vacancies from 23,500 applications, made by 11,200 individuals, representing the product of several hundred colleges.

You now have the situation as it exists, a very considerable excess of applicants over vacancies, the curse of excessive multiplication of applications, and large losses during the first year. Add to this the suspicion existing in the minds of some that we are not getting a sufficient number of superior students, and you do not wonder that rumblings, indicating dissatisfaction, have been heard from time to time in these conferences.

Suggestions for Selection

In connection with the study of the answers to the questionnaires sent out by the Committee last year, there were some suggestions which may be presented briefly here.

I. Selective Admission. Dr. Wycoff has shown graphically by his studies what can be done in this way and the method is in practical operation in certain other institutions. At present, it seems the most feasible method, but, of course, the work must fall on the institution making use of it. The National Research Council has brought about a series of conferences and out of these have come committees which are making an intensive study of methods for the more careful conduct of evaluation procedures, their checking up and recording. One of their first monographs, now in press, is on medicine, prepared by Professor Yoakum of Michigan. This whole question of measurements will probably be of great importance to us, particularly if we do not make the usual mistake of assigning more weight to them than do their originators.

II. Contact Methods. These methods are designed to bring premedical students in closer relation with each other and with individuals or committees in college, have been tried and found of value. Some of you will recall the paper of Professor Barker of Nebraska, and not a few of you are familiar with the helpful work of the Committee on Recommendations at New York University, Washington Square College. This sort of thing must originate within the college, and is perhaps easier in those which are directly associated with medical schools.

III. Personal Interview. The importance of the personal interview is stressed in several places, and undoubtedly it has a great value, but, of course, it cannot take the place of the other methods of evaluation, it is an adjunct.

IV. Admission by Examination might be feasible if there were some methods of adequate supervision and control, but it does not seem that at present we are ready to face the complexities of carrying it out.

V. Central Evaluation Agency. The establishment of some sort of clearing house where applications and credentials might be sent for evaluation and distribution has been suggested as a means of avoiding multiple applications and insuring uniformity in the enforcement of the entrance requirement. This again is an expensive and rather

cumbersome scheme and most schools would reluctantly give up the independence which might be thought essential to the success of the undertaking.

VI. Selection by Trial. It has been proposed that larger numbers of applicants be accepted into the entering classes and from this number select, after a trial period, only those best fitted for continuance. Of course, this is in effect what is now being done, as reference to the table will show; in fact, with some unfortunates the trial has been four years long. Dr. Myers points out the expensiveness of the process and perhaps this educational risk may be lessened by some of the means suggested, but it appears that this practice, which perhaps should not be called a method, will always be with us.

The truth of the matter is, of course, that while methods which we may use in medical school may help in the selection of students, the real improvement which we want to bring about is much more fundamental. It lies in the closer working together of those in the colleges and in the medical school, with an improvement in the understanding by each of the requirements, the aims, and the ideals of the other. This means a continuation of the opportunity to exchange ideas, which has been characteristic of the programs of this Association.

Suggestions for Future Work

To further the efforts along this line, to aid us in bringing results to the attention of the colleges and incidentally to help us in the selection of students, there are two things which are now suggested.

I. Continuation of Studies on Applications. This important piece of work so well carried out by Dr. Myers has attracted a great deal of attention and not only should it be continued, but some of the avenues opened by it should be followed. For example, with the publication of the report of the current year, there might be included actual enrolments, and losses, compared with numbers of acceptances. This whole matter might be so presented as to allow analysis of all figures according to colleges supplying the students as well as according to medical schools accepting them. It would also seem wise to undertake some study of the yearly losses.

II. Reports to Colleges. Some medical schools are already reporting on the status of their registrants directly to the colleges responsible for the training, but it would be much more effective if these reports from the medical schools were consolidated and sent from the Association to the college. In this way each college would receive results from all medical schools which had admitted its students. The question as to the publication of these results might be discussed, but the preparation and rendition of the reports seem feasible and desirable.

All of this leads up to a question which I think we have been approaching for years, and which many of us, I think, rather hesitate to

consider, the establishment of a permanent office, and all that is entailed thereby. It would seem that the work of the Association, which is, I believe, the most directly responsible agency having to do with medical education, has now reached a point where at least the proposition merits serious consideration.

Discussion

DR. WILBURT C. DAVISON, Duke University: The Johns Hopkins Medical School has had experience with two of the suggestions which Dr. Begg made. First, the value of the college's opinion of its own students: One college classified its candidates as A, B and C. For several years only the A men were admitted and over 50 per cent of them failed in the Medical School. Then, as an experiment, in addition to the A men, several B men were admitted. Little, if any, difference could be detected in the records which the two types made in medical school. Second, the admission of students by trial: 90 students were admitted to the first year class with the provision that only 75 would be promoted to the second year. This plan was abandoned after one year for it was found to be very unfair. If 90 exceptionally good students had been admitted, it would be unjust to fail the lowest 15 of them, while if 90 mediocre students had been selected a very much larger percentage should be dropped.

In 1924, a plan similar to that described by Dr. Wilbur was adopted. Less attention was paid to the numerical grades and to the number of hours and credits obtained by the candidates and more emphasis was placed upon his intelligence and character, qualifications which can best be evaluated by confidential letters from the student's science teachers and from personal interviews. Every student was seen either by a Regional Representative or by the Assistant Dean. As a result of this policy (So. Med. J., 1927, 20, 955-960) the annual percentage of failures in the Medical School has decreased from fifteen to less than two.

DR. FREDERICK T. VAN BEUREN, JR., Columbia University: I should just like to say that we have been happier in our experience in consultation with the college as regards the value of a prospective student than they have been at Hopkins.

For a number of years before I became associated with the administration, it had been the habit of the Columbia College to evaluate for us the men who were applying to the various medical schools. We made it a custom to have a meeting with the Rating Committee every spring and to present to them beforehand a list of Columbia College students who applied to the College of Physicians and Surgeons. They would rate those men on the basis of A, B and C; the rating intended to convey not only their scholastic grades but the premedical teacher's estimate of their character and personality.

We found it exceedingly satisfactory, so much so that we almost automatically accept their A and B+ and a good many of the men they rate as B. It has been very helpful.

DR. WILLIAM PEPPER, University of Pennsylvania: I should like to add a little suggestion to Dr. van Beuren's scheme. We too, did that for some years, and then we found the science teachers would often be unable to remember some one they had taught as a freshman and who was then applying as a junior or senior. So now each year, when the premedical group is admitted to the college, we make out a card for each man, and send that to the science men, and while it is fresh in their memory they record their estimate of the

student's ability on an A, B, C rating, also their estimation of his personality on a similar rating. That card follows the premedical student until three or four years later he applies for admission to the Medical School.

This will do away with the danger of the teacher forgetting about the man, having taught some hundreds in the interval. You get a firsthand impression while the facts are still fresh in the teacher's mind. Of course, this works very well with the teachers in your own college. When you admit a class of students from forty or fifty other different colleges, it only solves a small portion of the problem. Then other methods must be used and you have to seek out the honest science teacher referred to—a man who will write a candid letter and really tell you what he thinks.

Dr. A. S. Begg, Boston University: I want to correct one misapprehension; namely, that the Committee is making these suggestions. This is not the case. They are suggestions which have been received and which have been brought up by us for discussion.

I should also like to say that we believe all of these methods, or at least some parts from all of these methods, are important. There is so much in the technique of applying these different methods that I was in hopes there would be some discussion by the institutions represented here, which have already had some experience. It is possible, however, that this will come out later.

Correlation of Grades in Medical and Premedical Work with Personality*

FREDERICK T. VAN BEUREN, JR.
Associate Dean, Columbia College of Physicians and Surgeons

It is a great relief to me personally to leave for a moment a subject which is engrossing us, the topics that must be taught the student, because I feel that even more important than the topics are the men who teach them. Perhaps most important of all are the students to whom they are taught. For that reason I am very glad to open the discussion of the student phase on this general question. I think I ought to explain that the title of my discussion is not quite right. It should have two words added to it. The two words would be *"Failure of* Correlation Between the Medical and Premedical Grades and Personality." Because, as a matter of fact, there are so many exceptions to the general rule that one doubts whether there is any general rule about this hated correlation.

Accepting by Scholastic Grades

About two years ago my very good friend, Dr. John Wycoff, read a most interesting paper on the admission of students, which pained and shocked me extremely. It shocked me because he advocated a method of accepting them by scholastic grades, and that was not the method that we had been using. I do not think I had the temerity to reply to him at that time, because we had then no statistical evidence upon which to attempt a refutation. But, if I remember rightly, he claimed that the only proper way to chose medical students was by taking those who applied with high scholastic grades from colleges.

Last year we analyzed the class that had graduated in 1927 with the object of seeing whether our premedical requirements were really useful in indicating what character of work a student might be expected to do in medical school.

The Personal Interview

We found, to our surprise, that the average grade of all the subjects studied at college was a rather better indication of the character of the work a student would do in the medical school than the average grade of the premedical required subjects alone. But we found something else that was very much more interesting to me, and I thought it was rather more important. In taking students into the College of Physicians and Surgeons, we use three criteria to choose them: One, their scholastic grades; another, their reputation, or their reference as

*Read at the Thirty-ninth Annual Meeting of the Association held in Indianapolis, Oct. 29-31, 1928.

given by someone at the college to whom they have asked us to refer, and the third, by a personal interview, the results of which we tabulate on what we call psychological sheets. I do not know why we call them psychological, unless because it has nothing to do with the scholastic standing.

In that personal interview we try to find out whether the man has had some social activity or outside money-making interest or athletic work at college that interfered with his getting better scholastic grades than he actually did get. We try to find out whether in medical school he will be able to get through without having to work for money and put in too much of his time that way. Then we rate the applicants all in four groups: C to C+, C+ to B, B to B+, and B+ to A; low, medium, high, and very high groups. We list the applicants in the order of their scholastic standing.

Then, when they come in for their personal interview, we rate them with E for excellence in personality, G+ for very good, G for good, and F+ or F++ for something less than good. Then we relist them on a basis of those personality ratings, and in the various headings of E, G+, G, and so on, we arrange the men according to their scholastic grades.

Selection of Class

We then start to select the class. We choose first the men, usually two or three or four possibly, with an E rating in the personal interview, and then the men with G+, and the men with G, and we try not to take any men with a personality rating of less than G.

In looking up the personality ratings of these men, we found that practically all the men under a B grade had been selected purely on account of their personality. I do not mean that men above B grade might not have, in a good many instances, very nice personality, but they were not selected entirely for their personality as the men below B grade were.

In analyzing the class of 96 men, we found that on admission there were 27 men with grades averaging between a C and C+, 40 with grades between C+ and B, 23 with grades between B and B+, and 6 with grades between B+ and A.

Importance of Personality

On graduation of that same class we found that their grades in the medical school averaged in this way: There were 2 men left in the low group, C to C+; there were 48 in the group of C+ to B, in the medium group; the highest group had dropped from 6 men to 3, that is the B+ to A. I have forgotten the exact number in the upper group, but there were enough to make up the 96 men in all. In other words, there were 25 men, at least a quarter of the class, who had

climbed out of the low group into the medium or high group during their work in medical school.

The important thing to me was that those men had been chosen on account of their personality in the first place, because two-thirds of the men in that class had entered with a grade below B, and when they graduated there was a little less than half the class with a grade averaging below B.

The top quarter of the class, the first 24 men on graduation, were about half and half, of high and low grade on admission; there were 11 men who had entered with grades below B, and there were 13 men who had grades above B. The most interesting to me were the top 10 men in the class. Among those 10 there were 3 men who had been chosen entirely on account of personality. One was in the C class group, and the other 2 were in the C+ to B group. Of the 3 highest men in the class that had an average grade of B+ to A in the medical work, one of them had entered with a grade of almost C, 1.09. The reason I was cheered by that is because I think that personality is of the greatest importance in a medical student, a man who is going to do personal service. A man is not necessarily a leader on account of his knowledge, but on account of the way he uses it. The way he uses his knowledge depends upon his personality. There remains only to define what I mean by personality so that you will know what I mean.

I thought of it a long time, and the best I could do was this: Personality is a word used to describe something that cannot properly be defined. Personality is something that cannot be seen or touched or tasted or smelt, but something that you cannot help but feel. It is something that every medical man needs!

Discussion

DR. JOHN WYCOFF, New York University: I should like to correct an impression which Dr. van Beuren must have received, and therefore I suppose others must have received, when I read that paper two years ago.

In the first place, it was never my intention to say that the only way to select medical students was by rule of thumb from average grades. I simply had made a very ice cold study of five years' college grades, and correlated them to what men did at the end of their first year in medical school. Our method of selecting students at New York University is almost identical with the method described by Dr. van Beuren, that is, we get the grades. They are tabulated; they are placed in six groups, and students are all interviewed, that is, all living within fifty miles of New York. They are graded on their interview, and the final choice has never been made absolutely by grades.

During this period of experiment, this period of five years, of course, the first three years they were not chosen by grades at all. What I tried to show was that at the end of that time there seemed to be a closer correlation between the grades in the sciences at college than any other factor that we could determine.

I do not think that there is any question but what there must be in any method of selection a free choice of exceptions to using the grades as a

committee, without knowing what their scholastic ratings were. About one-half of the students cannot come to Ann Arbor and are interviewed by other committees set up in other parts of the country, but those that do come are checked by three persons, who have surprised me by their agreement, because they are very different kinds of people. One of them is a clinician; one of them is a neurologist, and one of them is a hard-boiled biochemist. It is extraordinary how much they have agreed in checking. They have a list of things which they check. I do not think it makes much difference what is on the list. They come to their conclusions by methods of which, I am satisfied, they can themselves give no account. But the important thing is that they generally agree. If one of them rates a man high on personality, they all rate him high; if one rates him low, they all rate him low. Of course, in the middle group there will be more differences of opinion. I believe that, on the whole, we are inclined to lay too much stress on scholastic excellence and too little on the things which we can find out by careful personal inquiry.

I attach some value to the literature which dean's offices accumulate under the heading of "Recommendations" but many of them are chiefly fuel for the furnace.

Dr. B. D. Myers, Indiana University: I have three cases that bear on the topic. The first is that of a young man who presented his credentials this spring from a college in Maine. His record was a superior one, with practically all A and B grades. At Maine he had been given credit for a year's work at Harvard, and his year's work at Harvard was all of an A and B character. At first sight one would say, "Here is a man that we are going to have to consider seriously."

I wrote to Harvard, as you no doubt always do—that is, checking up, not taking the credentials from the second school but writing to the first school for his record. His transcript from Harvard showed all A and B work. But at the bottom of that record was a little note that did not appear on the Maine credentials. It read like this: "Dismissed from Harvard University because of cheating in examination and lying about it afterwards."

The man was, of course, refused.

Case 2 is that of a young man who also had a very superior record. But in this thing that we call personality, he ranks as low as anyone I have ever seen in a student body.

Case 3 is the converse of case 2.

Case 3 is a man of good personal appearance, good physique, good personality. For two years he has been a boy-scout executive with nearly thirty troops under his charge. Men in whose judgment I have great confidence write me of the superior personal qualities of this young man, of his clean sportsmanship, of his fine influence on boys.

An examination of his collegiate record shows that while quantitatively it is entirely satisfactory, qualitatively it is far below our minimum requirements.

Now how can I accept No. 3 and reject No. 2?

The ambition of every Dean is, of course, to select from the many applicants the truly superior men.

I believe in No. 3. I accept the explanation that interest in athletics and extra-curricular activities account for his poor scholastic record. I believe him capable of good work, capable of becoming a trustworthy physician and honest enough to call for help when he needs it. I would employ him.

No. 2 will make the better record as grades are commonly recorded. But I could not believe the testimony of my own eyes and ears as to his trustworthiness as a physician, and would not employ him.

method of selection, but I do think that any one with much experience—I will say most of us because Dr. van Beuren has had just as much experience as I have had—most of us after ten years' experience in selecting medical students constantly feel that our best guide is the work that a man has done in college, though I think we all feel, as I said before, that exceptions should be made. Then there is one thing I should like to say about exceptions. I think that the exceptions should be made by the Committee on Admissions, and not be made by members of the faculty, because ordinary members of the faculty see one single case which comes up as an exception, and they are not, I think, as well able to say when an exception should be made as is the Committee on Admissions.

As a matter of fact, in the last ten years our Committe of Admissions has been overruled three times. I think that is a very good record. For the third time the student is now a first year medical student; the other two failed in the first year.

I think Dr. van Beuren's paper is exceedingly interesting. I think unquestionably he points toward a thing which we must all try to do, and that is try to weigh personality. I wish he could define it a little better.

Dr. E. P. Lyon, University of Minnesota: Dr. van Beuren's paper has been impressive to me and, I presume, to all of us. He presents a factor which ought to be weighed, but I should like to know whether he or any of the rest present can see a way in which we can apply it in the democratic state institutions. We have always thought that we could not apply it, even though we might recognize that it is of importance. If anybody could see a method by which the personality factor could be used in a state institution, I wish he would bring it to our attention.

Dr. W. C. Rappleye, Commission on Medical Education: There is another type of correlation, namely the correlation between grades made in the medical school and success in subsequent practice. We have data on 1600 physicians selected by fellow physicians practicing in the same community and who are known to be doing a high type of medical service. We were interested in checking back the grades made by that group of physicians while they were in medical school. We could get data on only a fraction of them because of inadequate records in the medical schools. But on those for whom information could be secured, the interesting thing was that these physicians now successful in practice (by the testimony of fellow physicians) were about equally divided between the upper, middle and lower divisions of their respective classes. As students they had been about equally divided among the good, the medium and the poor students.

Dr. Hugh Cabot, University of Michigan: I am very much heartened by Dr. van Beuren, because I believe that he is on the right track. I really think Dr. van Beuren misunderstood Dr. Wycoff's paper. I believe he laid more stress on scholastic rating than he appears to do. I have regarded scholastic rating as a very fallacious method. For instance, I can point to outstanding examples where scholastic rating of enormous excellence, staggering excellence, has been achieved and carried along by crooks. I am quite clear that all of the crooks who apply to us for admission to medical schools will, by one method or another, have achieved very high scholastic rating.

Dr. Lyon need not be bothered about what will happen in the state university. It may be that it is merely the confidence of youth which has enabled me so far to get away with it, but I have refused a very large number of candidates with very high scholastic ratings, preferring to them candidates whose personality has been approved by three members of the

faculty of the medical school are responsible directly or indirectly to these people for the expenditure of their funds in the training of each matriculant. The public has a right to expect that the school authorities will exercise every precaution to see that they admit and educate with public money only those men and women whose moral, physical and mental capabilities are such that they are likely to take advantage of their opportunities to become ethical, skillful, unselfish and energetic practitioners.

The physician should be a leader in his community. To be the right kind of a leader it is essential that he should be an educated man. Modern medical education cannot be imparted to everyone; it can be imparted to the best advantage only to persons of good character, fixed purpose, good native intelligence, trained to serious application. The maturity, previous training and intellectual competency of the student body determine in advance in large measure the scope, quality, method, aims and outcome of the instruction given by the faculty.

This does not mean an aristocracy in medicine, but it does mean in the medical school "a democracy of opportunity which leads to an aristocracy of achievement." The burden is rather upon the *applicant* to show cause why he should be the beneficiary of public or private funds devoted to his medical education, and in this attitude the University authorities should receive undivided public support.

Dr. Frederick T. van Beuren, Jr., Columbia University: A number of questions have been asked that I cannot answer. I do not know what to do in state universities, but I think perhaps Dr. Graves has answered that question by bringing up the point of our responsibility in trying to turn out the best sort of men we can with the writ of life and death over human individuals. Personally, we feel that we would rather turn out good, honest, average men than a few brilliant crooks.

My first apology is due Dr. Wycoff. I am afraid that I more or less consciously misrepresented his paper of two years ago, and I was tempted to do it by the eminent Dr. Wilson's title. I wanted it to be impressive. I felt justified in doing it, because Dr. Wycoff had quite gratuitously said that he was going to deny everything I said. For this I apologize.

I am sure that any state institution presided over by Dr. Cabot would not have to fear having difficulties met in a very daring manner, and all the Gordian knots cut through.

I do not know why I should have tried to define personality, because you all have "it."

The Weakest Link*

JOHN J. MULLOWNEY
President, Meharry Medical College

It is a trite saying that sanitation and public health, and, we must also include education, and particularly medical education, is only so strong or so good as its weakest link. It is common knowledge that the Negro group of our citizens comprises about one-tenth of the population, therefore, every effort that is made to increase the efficiency of our public health service or to make better sanitary conditions or to provide medical education for this country should, if all the links are to be strong, provide adequately, yes, even generously, for that one-tenth of the population.

I am raising the question whether there are many communities in our country which are providing adequately for the education and the sanitation and the public health of the Negro group?

Vital Statistics for Negroes

In an article in the September issue of *American Medicine,* page 616, some very informative and stimulating figures are given, which, from my rather limited knowledge of vital statistics, I believe, are fairly accurate. In the registration area as a whole of continental United States, this article says that during 1925 the mortality rate per thousand was 11.2 for the white population, and 18.2 for the colored population. In the cities of the registration areas, however, the mortality was 12.2 for whites as compared with 23.5 for the colored population. On the other hand, in the rural parts or districts, in the registered states, the mortality for the white population was 10.2 and for the colored 15.2. In the nonregistration states the white mortality was 13.0 and the colored mortality was 23.4.

The following statistics are more recent and very illuminating:

MORTALITY FOR 1927 IN THE STATE OF TENNESSEE

	Total		Total White		Total Colored	
	Number	Rate	Number	Rate	Number	Rate
STATE	28,959	11.8	20,559	10.2	8,400	19.3
RURAL	18,982	9.8	14,731	9.	4,251	14.6
6 CHIEF CITIES†	9,977	19.0	5,828	15.3	4,149	28.8
NASHVILLE	2,484	17.9	1,495	15.1	989	24.8

*Read at the Thirty-ninth Annual Meeting of the Association held in Indianapolis, Oct. 29-31, 1928.

MORTALITY FROM TUBERCULOSIS IN 1927 IN STATE OF TENNESSEE

Basis of Per 100,000

	Total		Total White		Total Colored	
	Number	Rate	Number	Rate	Number	Rate
STATE	3,274	133.5	2,086	103.4	1,188	272.6
RURAL	2,360	122.4	1,672	102.2	688	236
6 CHIEF CITIES†	914	173.9	414	108.6	500	347.2
NASHVILLE	215	155.1	86	87.0	129	324.1

For us who have been working with and for the Negro part of the population these statistics merely emphasize the tremendous need that there is for more adequate facilities for the training of Negro physicians, dentists, pharmacists, nurses and sanitarians.

Needs for Professional Training of Negroes

It is well known that there are only two medical schools, now recognized by the standardizing boards or committees of the American Medical Association and the Association of American Medical Colleges, specializing in the training of Negro youth in medicine in the United States and Canada. These two are: Howard University Medical School, Washington, D. C., and the Meharry Medical College, Nashville, Tennessee, of which I am the president.

Meharry Medical College has been graduating approximately 50 students each year for the past five or six years, and, I think, Howard University has graduated about the same number. Meharry cannot provide facilities and teachers for more than 50 students, and I doubt very much, after having recently seen the new medical building at Howard University, whether they are prepared to graduate more than 50 students. Therefore, these two schools cannot graduate more than 100 Negro physicians a year, and I hold that this is not enough. For on these 100 graduates the Negro people will have to depend for their sanitarians and public health men as well as for their physicians, internists, specialists and surgeons. It is true that a few Negro students are found in some of the Northern and Eastern schools, and possibly an occasional student in the Western medical schools, but the great majority of Negro physicians are drawn from the two medical schools mentioned.

Not Enough Hospitals for Internships

But this lack of facilities in medical education is not, to my mind. the only weak link; for I consider it a far more serious problem and a problem more difficult of solution: how to provide these 100 graduates from our two schools with proper internships. The following hospitals have given fairly good internship service to the graduates from

†Six Chief Cities: Nashville, Chattanooga, Memphis, Knoxville, Jackson and Johnson City. (These data on Tennessee was supplied by the secretary to the Commissioner of Health of Tennessee.)

these two schools: Freedman's Hospital, Washington, D. C.; Mercy Hospital, Philadelphia; The George W. Hubbard Hospital, which is an integral part of Meharry Medical College, in Nashville, Tenn.; City Hospital No. 2, St. Louis, Mo.; General Hospital, Kansas City, Mo.; John Andrew Memorial Hospital, Tuskegee Institute, Tuskegee, Ala.; Provident Hospital, Chicago; and John Archbold Hospital, Thomasville, Ga. There are several other hospitals which offer an internship for one or more medical graduates, but even with these, there are scarcely sufficient facilities to accommodate each year one-half of the graduates of these two schools with internships; in other words, approximately one-half of all the Negro medical graduates each year go without the very valuable training which they should acquire by serving their internship in a well regulated hospital.

Training Negroes for Public Health Work

The American public must be educated to a realization that facilities must be provided for all the population, if the weakest links in medical education, in public health and in sanitation are to be strengthened. Another very weak link which our leaders in medical education and public health education must give thought to is the question of training Negroes in practical service for public health lines. There are large parts of our country today, where the Negro population is considerable, but where no opportunity is given for the training of Negro sanitarians and public health men. The Negro physician and sanitarian understands the psychology of the Negro people, and will, therefore, get cooperation from the Negro citizens far better than any white physician or public health official, however well trained the latter may be. . . . And after all, cooperation of the people concerned is one of the biggest if not *the* biggest factor in public health work.

Another lack which weakens the link is the fewness of public health and visiting nurses, adequately prepared, to supply the needs of the Negro people. In short, the public health and the sanitation services in America are not going to be so strong and efficient as they should be till we provide more adequately than we ever have for the ten or twelve millions of Negro people. We should have more medical schools for this group of our citizens. We should have more hospitals, real hospitals, modernly equipped and staffed, and we must have more Negro public health nurses and sanitarians. Therefore, Meharry Medical College and the Medical School of Howard University should be made efficient in every way. Preparations should be begun for establishing another medical school, within the next few years, and several well staffed, real hospitals for internship service should be provided, preferably by the Negroes themselves, or jointly by city authorities or state authorities and the Negroes. The very best friend of the Negro is he who helps the Negro to help himself.

Problem of the Colored Student*

B. C. H. Harvey
Dean of Medical Students, University of Chicago

When I told the Secretary that I would present for your consideration the problem of the colored student, I desired to present it merely as a problem, the best solution of which I did not know. I hope that the discussion in this meeting will help us to arrive at the best solution.

Dr. Niles in his remarks at the Annual Dinner outlined very nicely the advisory function which the Association is so eminently qualified to perform. I was glad to avail myself of the privilege of asking the consideration and advice of the Association in this matter. I hoped that at this meeting Dr. Mullowney, Dr. Murray, and representatives of Meharry and Howard University would be present. I did not know that Dr. Mullowney was going to give the paper to which we have just listened. After hearing it, I know we are all grateful to Dr. Mullowney for the interesting and practical consideration which he has given this question, and I am especially happy because Dr. Mullowney and representatives of Howard University bring to the consideration of the question special knowledge and an experience of many years devoted to the special consideration of this topic. I know, after hearing Dr. Mullowney, that he also brings to it that love which quickens service and which quickens, also, the perception of the best way in which that service can be given.

The Problem

The problem can be very simply stated. We have a number of colored students in our northern schools. There were 86 last year. These students are good students, or they would not be there. As Dr. Mullowney says, they have to be better than the minimum standard, and perhaps better than the average, in order to secure admission. Undoubtedly, there is a considerable number of colored students whose mentality is better than that of the average white student.

I was interested this year in looking over the records of students applying for admission to the Medical School of the University of Chicago from our college, and among them was a colored student who had one of the best scholastic records. A few years ago we had among the medical students one colored student who maintained a scholastic record that was among the highest.

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*Read at the Thirty-ninth Annual Meeting of the Association held in Indianapolis, Oct. 29-31, 1928.

The Superior Colored Student

There is another way in which some of the colored students have attained a position of respect. In our school we have a quarterly system and a major system which makes it more than commonly possible for a student to take part work in the school while working outside for self-support, at the same time prolonging his course correspondingly. I have been surprised at the amount of work which some of the colored students have done. They have worked outside eight and nine hours a day, and in addition to that, some have carried at least one major, and occasionally two of college work. We do not recommend that they do these things. We do not encourage it, but we have permitted it occasionally. Some of these students have done an amount of work that I knew I could never have done myself, and I take off my hat to these boys; they merit respect and encouragement.

Problem in the Clinical Years

In the work of the first two years we have no difficulty of any kind. We carry these students during the first two years without trouble. But the work of the clinical year presents a real problem. There are three possible ways in which the work of the clinical years might be done by colored students. First, we might forget that they are colored. We might try to handle them just like other students. In that there are difficulties. With all the good will in the world toward the capable colored students, the physicians in clinical courses and in the hospitals, and the superintendents of hospitals, are unwilling and, perhaps, unable to assign colored students to clerkships and to other work in the hospitals in a routine way. The difficulties are so great that they are probably insurmountable, and this way is impracticable.

Another way in which the clinical work of the colored students might be handled is to assign them to the outpatient department and encourage them to make the best of the opportunities which that department offers, and they are very great. Afterward they could be sent for the intern year to colored hospitals, and we might give them the four-year certificate and give them a degree without ever appointing them to clinical clerkships, which is the most valuable part of the clinical training of our students.

Need for Another Medical School for Negroes

The third way in which we might handle colored students is by sending them to Meharry or Howard. Looking into the future and trying to foresee the way in which we can proceed most advantageously, there seem to be two possible lines of progress along which the solution of this problem might be sought. We might develop another northern

school for colored students, another Meharry or Howard, located in the North to take care of these 86 students who are now in the northern schools, or of a greater number in future years. Or we might, in each of the northern cities where there is a considerable number of colored students, develop a hospital for colored people, and that hospital might be taken over by one of our medical schools, the staff being appointed by the medical school, and appointed not only in the hospital but on the staff of the school. They might do the teaching in these colored hospitals, and they might make reports to the faculty, and recommend qualified students for the degree.

The problem is one that demands solution. The country has an obligation to these colored students, just as the colored students have an obligation to the country. They seek to meet their obligation by trying to be good physicians for the people of their own race. The country leaves to us its part of the obligation, providing good opportunities by which the colored students may become good physicians.

The proper solution would not only help the colored students, it would, as Dr. Mullowney has outlined, remove a menace to the public health, or help to remove it. But it would do more than that, it would help to preserve good feeling between the white and black races in our northern cities. From that point of view, perhaps, the problem deserves more consideration, and is more serious than is commonly realized.

Discussion
on Papers of Drs. Mullowney and Harvey

Dr. E. P. Lyon, University of Minnesota: Mr. President, within the last year I have had an experience which may be illuminating to the men here. At any rate it opened up a new vista to myself. Just about a year ago I was invited by the General Education Board to participate in the program of the dedication of a science building that they had given to a Negro college down in Alabama. Professor Woodruff of Yale, Professor Curtis of Michigan, and Professor Caldwell of Columbia were there. I had never had any experience with the colored colleges and was amazed when I went to this town and found a campus which would be a credit to many of our smaller colleges up here—for example, the one I graduated from. I was more interested in the character of this conference and the discussions which the colored members of the faculty of that institution, and of others who were gathered there, carried on. It was of as high an order of excellence as I have ever seen in any conference on science education or medical education (for example, such as we have here).

There were colored members of faculties who had some distinction. For example the Professor of Chemistry from Fiske University was there, who is an organic chemist of note. Everything impressed me that the colored race has made marked progress in the field of higher education.

A few months later I was invited to give an address at the dedication of the Howard University new medical school, and on the program with me that afternoon was a colored man who, as I recall it, is Assistant Professor of Pathology at the University of Chicago. His paper was of a scientific character and first class. Again I was impressed with the fact that this race is

producing leaders in professional education. At Woods Hole I have for some years known and respected Professor Just, a colored biologist of first class attainments.

These interests stirred me still more, so I got together all the literature I could on the subject of higher education of Negroes, and that led me more or less into the secondary education. I was amazed at the progress they have made in the last fifty years. Of course, some of it has been through the efforts of the missionary societies and philanthropic organizations of various kinds in the North, and some of it has been through the municipal and state governments in the states where a large part of the population is colored, but a commendable amount of it has been accomplished by the colored people themselves. In other words, I became convinced that here was an effort and here was a problem in which the people involved were at least doing their share, and in which every possible effort to help them would be appreciated and would bring results of better social welfare of the whole country.

I have been enormously interested in these two papers this morning, and I think that Dr. Mullowney has shown that we ought to put ourselves on record as favoring financial aid, state aid, municipal aid, any kind of philanthropic aid which may be secured for the institutions for the colored people —of course, primarily hospitals and medical schools—but extending, in the long run, to higher education in all of its fields.

Dr. Mullowney, would you like such a resolution on the books of this Association?

DR. J. J. MULLOWNEY (Meharry Medical College): Yes.

DR. LYON: I move such a resolution be drawn up in the proper form by the Secretary and be placed upon the records of the Association.

PRESIDENT MYERS: Is there a second to the motion? It is not in definite form, but you understand it clearly.

. . . The motion was regularly seconded, was put to a vote and carried. . .

DR. PETER M. MURRAY, Howard University: It should not be necessary for me to qualify my right to discuss this question; it is very apparent, I am sure. Further than that, it might be interesting for me to give you a little of my own background. I was born in Louisiana outside of New Orleans. I was raised and educated at the feet of men and women who gave their lives to such work as Dr. Mullowney has described.

I then went north and studied at Howard. After serving some time there I went to New York City where I am now located. I believe I can look at this question with an eye which takes in all possible angles. At present I am fortunate enough to hold a position on the staff of the Harlem Hospital—like prohibition, this is another noble experiment. I also have a position on the staff of the Broad Street Hospital in the downtown section of New York.

May I give you some of the historical background of Howard University? I find myself in almost entire agreement with the splendid presentation of the Negro student that we have listened to from Dr. Mullowney, and the sympathetic treatment of the colored student as he relates to the white medical school by the gentleman from the University of Chicago.

Howard University was the outgrowth of a war measure. Soon after the war General O. O. Howard, then in command of the Union Army in that vicinity, put himself to the task of establishing a university which would especially offer opportunities for education to Negroes and underprivileged whites. That school was founded at Washington and has since been fostered by the government. The medical school became an integral part of that university very soon after its founding, but the medical school has had a rather uncertain existence.

Early in the history of the medical school the students were about equal in number among white and colored, and I may say here it was one of the first schools in this country to give encouragement to the education of women. Early in our history the men who were responsible for that school saw that the time would come when absolute, equal opportunities for medical education should be extended to women.

After a precarious existence of four or five years, it was seen that it was too much of an expense to attempt to continue the Medical Department of Howard University. The university officials decided to throw it overboard, but then there came to the rescue such men as sit in this audience, and such men as, in my mind, make America truly great, men who serve for purposes of principle and not for mere monetary return. There gathered about the university a band of faithful men, some of whom are still living, some of whom have given over fifty years of unselfish service to that cause. These men continued the existence of the school. They came out and addressed themselves to the matter of meeting the budget or the deficit, such as it was, for twenty, thirty and forty years. The school was run for the benefit of the students with no other income except the tuition of the students and a small pittance of $8,000 which they received from the government, which was designated "for the upkeep of buildings." There were no salaries. At the end of the year if there was any money left, $400 or $500, it was divided among the faculty; eight or ten faithful men would say, "If we have any money left, $50, or whatever the treasury can stand, I will be satisfied."

Year in and year out many of those men taught without any hope of any financial reward, but they got their reward through the satisfaction of having directed the lives of young Negro men in the paths of medicine, the noblest of all professions. They did it for the love of humanity. They had a far-seeing eye, and they saw ultimately this whole problem of sanitation and health must be attacked from all angles, and they saw the neglect of the colored angle, and they thus addressed themselves to do what they could towards its solution.

Today Howard University is carrying on a slightly different existence. About ten or fifteen years ago, when such standardizing bodies as this saw the need of correcting the chaotic condition of the medical education, Howard immediately began to put its house in order. It called for a reorganization; it called for expansion. The day of clinical facilities was on us. Those things could not be run without funds. Along came the General Education Board, and after a careful survey in seeing the absolute need of this situation, they offered a fund of $250,000, if the friends of the university could raise a like amount, to provide a working endowment for teaching purposes of $500,000.

The university officials then reassumed the obligations of the Medical School, and it again became an integral part of the university. That is its standing today.

May I say, and I say it with some sense of pride, that the completion of the collection of that one-half million dollar endowment has been successfully celebrated. Of the $250,000 raised by friends of the university, over 60 Negroes gave $1,000 apiece, and of that entire amount over $171,000 was paid in by Negro men and women. I think that marks an epoch in the history of my own people, for in our processes of education we have yet to learn to do the things for ourselves that are vital. One man has aptly put it that the Negro expects a white man to give him what he needs, and he goes out for himself and buys what he wants. But the day has come when we are facing the music, and if we expect to call the tune, we must pay the fiddler. We

accept the responsibility of the health and welfare of our population, and we are addressing ourselves to the solution of that problem, and we appeal to you for help.

Last year there were 233 students in our medical course, not including dentistry, pharmacy or nursing; I do not have those figures. We graduated 55 men last year. We have a splendid new building, as Dr. Lyon has told you, well equipped through the generosity of a beneficient government. We have a working endowment which forms the basis of adequate support—adequate to some extent, but far from being sufficiently adequate. We are now in the process of reorganization. We had your Secretary, Dr. Zapffe, come down a year or two ago to make a survey of our facilities and of our needs, and he can tell you of them. He is thoroughly familiar with them, and he knows exactly the angle that we are trying to develop.

We expect and intend to develop a first-class medical school. We expect and ask your assistance in seeing that we develop the kind of medical school that any American doctor might well be proud of. We do not expect any concessions because we are colored or because we are devoting our lives to the training of colored doctors. There can be but one standard in medicine, and that is the best. Germs and infectious diseases know no line. The moment we attempt to set a different standard of education or a different standard of measuring up for accrediting, we weaken the whole medical structure.

Of our classes last year 61 per cent had the baccaulaureate degree; 50 per cent had a baccaulaureate degree before they matriculated. Of the present class, 80 per cent have the baccaulaureate degree; that is in face of the fact that our entrance requirements are the two-year premedical requirements. In medical schools other than Howard and Meharry there were 94 men last year. Of this number 20 were enrolled in the Chicago Medical School. So far as I know, it would seem to me that it would be better that those 20 men were not in the medical school at all. We have far too many men now who are not imbued with the proper ideals and principles of the ethical practice of medicine to be wasting time and energy on men in such schools as that, who are almost certain to be a detriment to a group of physicians already handicapped.

Our present conditions and our plans for the future I have attempted to sketch in some way, but the biggest job in our reorganization plan is the status of our hospitals and its relation to the medical school, as I tried to outline to some extent the other day. I am going to ask Dr. Zapffe if he will extend us his kind aid in further working out this problem. It is very vital, as you have seen.

I have seen that our problems are the common problems of medical education everywhere. It is our plan to modernize our relationship between the medical school and the hospital, to recast our system of intern training and install a progressive rotating service. We already have a rotating service, but we want a progressive service in the form of junior and senior leading to residences in one or more of the specialties.

It may not be possible to establish residences which will be approved by the highest bodies, but we intend to make a step in the right direction. That leads me to the consideration of the graduate opportunities, and especially the training of Negro doctors for the various specialties.

A few years ago, I think it was Dr. Charles Mayo who said there were 40,000 men in this country doing surgery, when only about 10,000 were qualified. Negro doctors are being graduated, and Negro doctors are doing surgery. They are going to do surgery, good, bad, or indifferent. It is within

the province of such bodies as this to profoundly influence the type of surgery that these men are doing.

Another thought comes to me which fits in admirably. Of the men who have graduated from schools other than Howard, we find among them the largest number of men who are properly prepared to undertake these specialties. In our own hospital two of the best men on the staff are Dr. Carson, a University of Michigan graduate, and Dr. Curtis, Professor of Surgery a Northwestern University graduate—men whose ability in surgery is unquestioned by the profession, white and colored. If Dr. Kober, the dean of Georgetown Medical School, who has lent us so much kindly assistance in our lifetime, were here, he could substantiate what I say.

I said all of that to say this: There is no more vital force to inspire the masses than the deserved recognition of the few who have attained. It is all right and well enough to say the Negro cannot do surgery. There are some Negroes who can measure up to the highest standards in surgery, but so long as standardizing bodies such as the American College of Surgeons deny us recognition, then so long does the mass of Negro doctors feel deprived of the necessary incentive to spend the year of preparation to do the proper kind of surgery. May I draw that a little finer? In New York City, where I have been for the last ten years I have succeeded in interesting only one man that the practice of surgery is a serious proposition, that it requires years of experience; that it requires years of apprenticeship, and requires a development of a sort of prepossession in a man to always expose himself by means of study and observation and counsel with surgeons, in order to eventually develop. This man has succeeded in developing in a fair way. He has taken postgraduate courses, beginning with cadaver work at the New York Postgraduate School, and eventually he has landed a position on the indoor service in Harlem Hospital, and now he bids fair to develop into a man of whom surgery might well be proud.

The great difficulty I have found with a great many men is that they desire to practice surgery without proper preparation and it only remains whether the patient is willing. Unfortunately, the only hospitals open to Negro surgeons with few exceptions are privately owned sanitariums which have no close supervision. If a man has money enough to promote one of these factories he can go in, close the doors and operate to his heart's content. A kindly nature will often let him get away with it. That is the condition with which we are struggling. Fancy in a medical school Class A, and an accredited hospital such as Freedman's Hospital at Washington, D. C., staffed by white and colored alike, Negroes holding positions of Professor of Surgery and Professor of Gynecology, graduates of Northwestern and of the University of Michigan, being denied the standardizing value of admission into fellowship of a body such as the American College of Surgeons. There are two big things in the life of any man in developing, that is incentive or inspiration and opportunity. We accept the limitations of opportunity, and it is up to us to make them for ourselves in one way or the other. We do not attempt to overturn certain long established customs. I make no apologies for the great American shortcoming of race prejudice. This is not a place to discuss race prejudice, but we are facing facts. We make opportunities; we make them at Freedman's Hospital. We have made them at Tuskegee Institute, and we have made them in the long list of hospitals which Dr. Mullowney has cited to you. There are other opportunities that can be made, if we have sufficient incentive and inspiration.

The enthusiasm which comes from you, backed by such work and inspiration as this, inspires me to do better work. You have heard Dr. Harvey

speak of the splendid colored students that he has seen in the white universities. You heard Dr. Lyon confess to having his eyes opened. We get the greatest inspiration, as Dr. Wilson showed us very scientifically yesterday, through the great personality of teachers who inspire us.

I hope the day will never come when the Negro student will not be admitted in some numbers to all the big schools of this country, for then we will lose that quickening inspiration which has produced such men as St. Elmo Brady the chemist at Fiske, and Dr. Just the biologist at Howard, and Dr. Lewis the pathologist at Chicago. So I am concerned now with increasing the quality of men we turn out rather than increasing the quantity.

Dr. Mullowney has a wider view of the needs of the national situation than I have. I am only a trustee of Howard University, and it is said that all trustees fall into two groups, either rubber stamps or nuisances, and thank God I am a nuisance. (Laughter) I shall devote myself to seeing to it that the Negro develops to the fullest the opportunity that he has and that he accepts no second rate standard. We ask your assistance in this thing.

Tuskegee and Hampton are well known. Everybody knows about Tuskegee and Hampton. To some men they represent the ideal of Negro education. They are necessary works. They deserve all the support they can get, and I hope they will get more. But what is the use of giving millions of dollars to Tuskegee and Hampton, and teaching trades and domestic science to elevate the standards of living among 10,000,000 Negroes, if you have no way to teach them how to have and rear babies with a low mortality? I myself have taken a cook out of a kitchen who was not fit to prepare food for her employees. It falls back on the shoulders of the Negro doctor. The Negro doctors accept the challenge and accept it willingly. They only ask that you look at our problem as a part of the great national problem, not as a differentiated segment. (Applause)

Dr. J. M. H. Rowland, University of Maryland: I should like to say a word about what we have done in Baltimore to help out one phase of this matter. We have in Baltimore 125,000 Negroes. Ninety per cent of these Negroes are served by Negro doctors. This makes each Negro physician in the town have three times as many patients as the average white doctor. They were in an unfortunate position. We could take care of all of their people in hospitals, or most of them. But they had no chance to bring in private patients. There were no opportunities to be treated in private rooms. They had no right to hospital service in the hospitals that were there, and the only opportunity they had was in a small hospital of something like 30 beds, which was very inadequately sustained. They got very restless, and they wanted better opportunities, which was their right.

They went to the mayor and asked that the city build them a hospital. The mayor appointed a committee of which I was unfortunate enough to become chairman. The mayor asked that we report whether or not we felt it was a good thing to build a Negro hospital.

After a good bit of deliberation (I spent as much time on it as I ever did on any problem I ever tried to solve) our committee reported, under some protest from the colored members of this committee, that it was unwise to have the city build a hospital for them. We felt that a hospital properly developed under the auspices of the Negroes themselves with Negroes in charge, and under proper supervision, would lead to better service and to more opportunities for Negro physicians than any possible city hospital controlled by white political doctors.

There was a good bit of dissatisfaction with that report, but it was made. I forgot to say, however, a part of that report advised that the hospital which

the Negroes were trying to buy and for which they had already raised a considerable sum of money, be sold to them, but that it be sold them under a certain understanding that certain restrictions concerning supervision were to be established.

Secondly, that a group of men from the two universities, Johns Hopkins and the University of Maryland, were to be made a committee for organizing a staff of that hospital, and until the Negroes were in a position to care for it as it should be, that this staff retain its supervision. We even named the men who were to supervise it, Drs. Finney, Fischer, Shipley and Puicoffs. The most curious thing about this report is that every word of it has been worked out, even to the committee recommendations as to supervising board.

Just at that time the old Union Memorial was being abandoned for a new site. The old hospital was sold to them under the provisions of our report. The thing suddenly, for some reason or another, became popular. With the amount of money which the Negroes had raised, with a donation from the Rockefeller people, and the personality of Dr. Finney, they succeeded in raising for that hospital more than $400,000. That hospital is today one of the very finest in Baltimore. I don't know any hospital into which I go that has a better physical equipment. Certainly neither of the two hospitals which are connected with the university in which I teach has anything like as modern physical equipment. They have a bed capacity, or can have it, of about 150 beds. A supervising staff for each department has been appointed. I think every single member of this group is a teacher in either Johns Hopkins University or the University of Maryland. The fact is that the staff consists of some of the very best teachers that we have.

The Negroes, while a few of them at first did not like the idea of being too much supervised, have now fallen into it with great enthusiasm. You have now in the new Provident Hospital in Baltimore, which Dr. Mullowney did not mention, I think, one of the finest opportunities for Negro interns, of which already ten or eleven have been appointed, and the hospital is running. It is one of the best opportunities for interns and Negro physicians to improve themselves. It is a very distinct understanding that these men are to be trained to run their own hospital. At the very first possible moment the hospital is to be turned over to them to operate for themselves. They have their own board of trustees which is not being interfered with in the slightest degree, and they themselves now are willing to submit to this tuition, and are anxious and ambitious in the course of time to take over the running of what is, I think, one of the finest hospitals in Baltimore. (Applause)

Dr. W. S. Leathers, Vanderbilt University: I simply wanted to make two or three comments in regard to this subject. In the first place, coming from Nashville, Tennessee, I want to express my very hearty appreciation of the content of Dr. Mullowney's paper. I was engaged in public health work for some fourteen years in a state, Mississippi, where there were 52 per cent of the population composed of Negroes. From the very beginning of my career in public health work in that state, I made it a point to emphasize at all times that the Negro should be given exactly the same consideration, from the standpoint of our staff, as the white people. I think that the Negroes in that state appreciated consistently the attitude which the State Department of Health sustained to them.

When I became Secretary (I mention these points incidentally because I think they have a bearing upon the point that I am going to finally develop) of the State Board of Health, it was customary for that board to fail all Negroes that came before it. It was a very rare thing for a Negro to pass the State Board of Medical Examiners, which in that state is referred to as the State Board of Health.

I had a resolution introduced which provided that the Negroes should be given exactly the same consideration by that Board as the white applicant. This resolution was passed. The first time the resolution was put into effect we were careful to see that all of the papers had symbols, and that no one knew which were the papers of the white applicants and the colored applicants. All of the Negroes, I think, some eight or ten on that particular examination, that applied for license passed with the exception of one. I think since that time the State Board of Health has been dealing with the Negro applicants in this way. Of course, it is nothing but justice that they should be given this consideration.

I have always been very sympathetic with the Negro race and the problems that have confronted them. I was very glad indeed to hear Dr. Mullowney emphasize the sanitary phase of the Negro question. I not only have used every opportunity possible in my own work to take care of this, but at the present time each year in my own teaching I emphasize to the white students in Vanderbilt University the great necessity of giving every possible consideration to the Negro race from the standpoint of public health as they go out as practitioners of medicine.

The point I wanted to refer to particularly, after having made these comments, is this: Dr. Mullowney referred to the fact that this whole question was one, to a very considerable extent, of cooperation. I think that in discussing the problems which confront the Negro race we should keep in mind the fact that this question of improving the living conditions of the Negro race and of elevating the standards of living among them will depend upon a cooperative relation between the white people and the Negro race. It has to be worked out upon this basis, it seems to me, if we are to get results. They should be given every possible opportunity to help themselves, and those of us who have appreciated the problems that confront the Negro race should lend a helping hand at every point and endeavor to clean up foci of disease in communities where they are thickly settled, so they will be provided with wholesome living conditions.

Dr. Irving S. Cutter, Northwestern University Medical School: Mr. President, in Chicago we have been very much disturbed over the situation in the Chicago Medical School. There are a considerable number of Negro students in that institution, and I should like to ask Dr. Mullowney if he feels that with the population of approximately 200,000 colored people in Chicago, it would be wise to consider at this time or some time in the future, the establishment of a separate Negro medical school and hospital in that city. I note that he advocates the establishment of a third Negro school, possibly somewhere in the Southwest.

Northwestern has had a few colored students and we now have a colored medical graduate as a member of the faculty. This question has so far interested the faculty that a special committee of which this colored instructor is chairman has been appointed to consider our obligation and relation to colored students. I understand that the committee has ascertained that the colored graduates are not particularly successful in practicing among colored people in the City of Chicago, inasmuch as many of the colored population prefer a less well prepared white physician to a well prepared colored physician.

Reverend Alphonse M. Schwitalla, St. Louis University—Dr. Mullowney has commented on City Hospital No. 2 in Saint Louis. I am happy to be able to bring you the assurance that within a short time our situation will be considerably improved. It has just been determined that the City Hospital for the colored will be built in close proximity to the City Hospital for the whites.

This will give enlarged facilities for hospitalizing colored patients besides insuring more adequate training for the interns. I feel sure that a large number of internships for colored physicians will become available as soon as the new hospital is erected.

It must be admitted that the situation in Saint Louis in regard to training colored physicians has been deplorable. The hospital for the colored has been located in an old school building poorly adapted for hospital purposes and in a neighborhood which is anything but a desirable hospital environment.

The situation, however, has not been altogether neglected. Through a bond issue two million dollars were appropriated for a new hospital for the colored. That amount of money has now been available for about four years and despite the fact that both the Mayor and the Board of Aldermen have for that length of time been anxious to advance the project the dissensions which have arisen regarding the location of the hospital have been so violent that the question was finally referred to a Grand Jury for investigation.

The dissensions regarding the location of the hospital effected both the colored and the white citizens. One group among the colored people insisted that no new hospital should be built, but that the facilities of the present city hospital should be extended to handle both groups of the population in the same institution. Naturally this proposition brought the racial question strongly to the front. A second group of the colored people insisted that the colored hospital should be entirely separate from the hospital for the whites in a locality several miles away from the hospital for the whites and that it should be staffed entirely by colored physicians. A third group finally, by far the larger group among the whites and a not inconsiderable group among the colored themselves, insisted upon a new hospital in close proximity to the present city hospital. The decision finally reached was to locate the hospital in accordance with the wishes of this last named group.

The question of special interest to us is that of intern training in such an institution. The staff of the city institutions in Saint Louis is made up of three units, the first two units being made up of representatives of the faculties of the two universities and third unit being chosen from the profession at large. Heretofore each of these three units has had two years of service in rotation at the colored hospital. With such a plan obviously it is difficult to enter upon a constructive and permanent policy of intern training during a tenure of office of only two years. It is certain that with the new developments in sight this situation will be materially remedied.

In the hearing before the Grand Jury the deans of the two Medical Schools both insisted upon the dearth of colored physicians to staff a city institution for the colored. I should like to ask whether, in view of Dr. Mullowney's paper, this position was entirely justified.

Dr. Cutter referred to a matter which has occasioned considerable discussion in Saint Louis. Will the colored people really patronize their own hospital and their own physicians if steps are taken to develop a large number of graduates?

DR. J. J. MULLOWNEY, Meharry Medical College: Mr. President, it certainly has been very fine to give this subject so much time. Really I feel we have taken more time than is due us, but I have been very much pleased with the sympathetic remarks and opinions of the men who have spoken.

Dr. Murray of Howard, I think, has answered your question very nicely, when he says that Freedman Hospital is being run with the cooperation of white physicians, the supervision of white physicians as counselors, as advisers, as friendly friends who will help them.

Dr. Rowland from Baltimore said practically the same thing. His plea that for the present there should be cooperation between the white leaders of a community, not the politicians, but the best men in the community, with the best Negro physicians is the way to do it. I think Dr. Murray and other thoughtful Negroes will agree with me in saying I think the best minds in the Negro race feel they have not "arrived" at the place (I have been told this by Negroes themselves) where they can take this *all* into their own hands. I am in hearty agreement with that. As a matter of fact, how many white surgeons and physicians and educators are able today to carry out these problems on their own hook? There are mighty few.

What Dr. Murray said about graduation bears out my figures, that it is around fifty. Last year we turned out fifty-two, this year we will turn out about forty-eight. We have room in the freshmen laboratories for about sixty-four. By the end of the sophomore year we usually have about fifty.

I am very much obliged for the information from Dr. Rowland. Of course I gave the figures on hospitals who had given our graduates internships. So far as I know none of our men have had the opportunity to intern at this new hospital. Perhaps, because of the newness. The only hospitals that I have mentioned were those that are available for Meharry. (Since the meeting, I find that one of Meharry's graduates is interning at the New Provident Hospital.)

There is another hospital that could be mentioned, the Harlem Hospital. Dr. Murray knows more about that.

In regard to the new school, personally I feel that the time is not quite ripe for that, either in Chicago or in the Southwest. I said in my paper "some time soon," and I said we should be preparing for that, and that means time. I think the time will come, I should put it as a guess about eight or ten years. Why are we not ready for it yet? Because at Meharry this year, for instance, we only have forty-eight in our Senior Class. We have places for fifty comfortably. I don't know how Howard is situated. In our junior class, because of the "mortality" that has occurred, although we took in sixty-four or sixty-five, there are only about forty-four. There is room there for several more, and I think we can take care of the number of students that are going to be available for the next eight or ten years. But we should be making plans for a new school. Whether to put it in Chicago or whether to put it in, for instance, New Orleans, is a question which the Negroes themselves, I think, ought to decide. Why do I say Southwest? I just made an analysis of the constituency of our present enrollment in medicine, dentistry, pharmacy and nurse training. I find that thirty-nine students come from Texas. The next state in numbers is North Carolina. Despite the fact of its nearness to Howard, we have I think thirty-two students from North Carolina. But most of our students are coming from the state of Texas. Most of our graduates go to the state of Texas. The time is coming when there must be another school in the great Southwest, which is developing at a wonderful pace and where they are giving splendid opportunities for the preliminary or pre-medical education, high school and college, of the Negro.

One word about what we are doing to increase our faculty at Meharry, because several have asked about it and I have been very much gratified. The first year I came to Meharry, in 1921, we sent a man, Dr. Quinland, to Harvard, one of the leaders of his class. He got a fellowship. He was there studying pathology; he was there for at least two and one-half or possibly three years, concentrating on pathology. He came back to Meharry and has since headed the Department of Pathology. He has done excellent

work both in Boston and with us, and is making a splendid teacher. Two years after that we picked out a good man and sent him to Columbia to specialize in bacteriology. Dr. Jobling, another splendid friend of the school, a Southerner by birth, I believe, has written me a letter that he has never had a student do better work than this Dr. Bent, one of our graduates. He is heading the Department of Bacteriology.

Just now we have a man at Michigan in roentgenology. I have splendid reports about his work there. We have three men at Harvard now, one in pediatrics, one in pathology who will assist Dr. Quinland, and another man who is to come back and assist in bacteriology, is taking special training there. We have another man with Dr. Carlson at the University of Chicago taking physiology. We have just had a man at Pennsylvania who made a splendid record there under Dr. Clark, and he is heading the Department of Anatomy. There are all kinds of fellows willing to take a little money and go off and study, but what we are trying to do is pick our men who will serve as a nucleus to build up a real "honest-to-God" faculty at Meharry, and we are trying to get the very best timber. We are looking for a man, and have had the greatest difficulty in getting a man, to take up materia medica and pharmacology.

That is what we are trying to do at Meharry to build a real medical school. What we need, what the Negro group needs, and I think what we all need is more real "honest-to-God" undergraduate training, and that is what I am trying to do. We do not need a large school, but we do need a modernly equipped medical school for undergraduates, which will serve as a model for the Negro. Then the Negroes themselves should get money and build a real medical school for Negroes, by Negroes. That is my aim and I think we are on the way to a successful culmination. (Applause)

Dr. Peter Marshall Murray, Howard University: I heartily agree with the program at Baltimore. This matter of racial relation is like scientific research. It narrows down to truth. One hundred men may start out on a piece of biological research and when they hammer it down it all comes out at the same point. We haven't arrived as a group. No group arrives as a whole. You don't wake up one morning and find that all folks of a group have arrived. But we will arrive individually. For the Lord's sake don't kill enthusiasm and ambition in the whole group by denying the recognition of those who have come up. That is all I have to say.

Dr. B. C. H. Harvey, University of Chicago: I should like to ask Dr. Mullowney one practical question. I notice he has room for about eight students in the third year in addition to those that are now at Meharry. I suppose Howard University has possibly similar ability to take care of additional students. Would these gentlemen advise us to send our colored students down there when they are ready to begin the clinical work, even though they don't want to go? They know the psychology of the Negro. They know the conditions down there. Many of our northern students, born in the North and having lived there, are familiar with northern conditions and would like to stay in the North. I feel like sending them down south if the southern schools would take them provided these gentlemen think that is a good thing to do, even though they may be a little reluctant to go.

J. J. Mullowney, Meharry Medical College: Perhaps some of you would be interested in knowing—I think you will, because I have been asked several times, "How did you get such a name for your college?" It is a romantic story and also shows how many of our colleges developed from the thrift of our forefathers.

The name comes from an Irishman by the name of Meharry, who came

over from Ireland to New York in the early years of our country. He did not like it very well in New York, so he migrated to Pennsylvania. From Pennsylvania he went to Ohio. He had five sons. These sons distributed themselves in Ohio, Indiana and Illinois. Shortly after the war between the States, these five brothers, who had become rather old men, wanted to do something to help in the reconstruction of their country. They were not wealthy men, as wealth goes today, but they felt that if they could pool their interests they could do something worthwhile.

Origin of Meharry

As I remember it, two were ministers, two were farmers, and one was a storekeeper. The story goes that between them they had about $30,000, not very much as things go today. These five brothers being Methodists felt they would like to give the greater part of that $30,000 as a fund to found a Christian college for the training of Negro youth in medicine. They gave this money to the Methodist Episcopal Church. The Methodist church at that time had a little college for Negroes, called the Central Tennessee College in Nashville. It has since become known as the Walden College. This sum of money was given over into the care of the man who was at the head of Walden College, and that was used to start the first college for the training of Negro youth in medicine in the Southland, west of the Allegheny Mountains, over fifty-two years ago.

It is interesting, also, to know how the thing grew and how one of our own profession took hold of it and, with tremendous odds against him, built up from nothing an institution which has sent out over 3,000 Negro physicians, dentists, pharmacists and nurses.

This young man, George W. Hubbard, and who afterward became Doctor George W. Hubbard, came down as a private in the army of the Federal Government. About the time he got to Nashville, the war ceased. Instead of going back to his own friends, showing the character of the man, he stayed in Nashville. He was not then a medical man nor a medical student. But he offered himself to teach the colored children in Nashville.

In those days it was a very, very different thing from what it is for us who are trying to do a similar work today. We simply cannot appreciate what he had to go through. His life was threatened more than once. He told me himself that when he first came, even a policeman ordered him to leave the town or something would happen to him. But he persisted and taught these little colored children in an old barn. After doing that work for two or three years, he decided he would like to take a course in medicine, to prepare himself to head the proposed new medical school, and he went to what has since become the Vanderbilt Medical School, for his training.

At that time, fifty-two years ago, medicine consisted simply of two courses of lectures, or a course of lectures for two winters.

He began fifty-two years ago with just himself and one other teacher, and I cannot refrain from taking just a little of your time to tell you who this second helper was, because I want you to get a good picture, a true picture of how this educational work for the Negro folks has grown with the help of the Southern men as well as with the help of the Northern men. Who was this other man, the only other helper that he had? He was a man who had been a surgeon in the Confederate Army. His name was Dr. W. G. Snead. He came to Dr. Hubbard and offered his services. From that time until he died this Southern surgeon was the mainstay of Dr. George W. Hubbard in founding and starting and developing this school for the Negroes of the South.

They started with these two teachers and five students. Today we have over 400 students, four departments, medicine, dentistry, pharmacy and nurse training. The school has sent out over 3,000 graduates into this very splendid service of medicine, dentistry, pharmacy and nurse training.

Sometimes rather humorous things happen with people who are not accustomed or acquainted with the kind of work we are doing. A sample of that, which I have gotten a good deal of pleasure out of, was: one day shortly after I had come there I was riding on the train, and a typical, good-natured, congenial old Irishman was sitting in the smoker. I saw that he wanted to be friendly and congenial, so I shook his hand and told him my name. He said, "Well, that's a good Irish name."

So I pulled out my little card, and on the lower left-hand corner there was this little inscription: "President of Meharry Medical College." The old fellow looked up, and the smile of Ireland was on his face, as he said, "Faith, and bejabbers, so you're the president of an Irish college! I'm moighty glad to know ye."

I did not have the heart to inform him of the truth. It has been a great pleasure to find friends in every part of the country who have given a friendly word and a word of encouragement in this work which Meharry is trying to do for our underprivileged group of citizens in this country.

The Teaching of Psychiatry in Medical Schools*

ALBERT WARREN STEARNS
Dean, Tufts College Medical School

The discussion of the relative importance of psychology and psychiatry in the medical curriculum has been prolonged for many years. For the most part, the opinions expressed have been 'ex parte.' There seems to be no court of last appeal which can decide this matter with finality. Tufts College Medical School sees its greatest opportunity for service as a training school for practitioners, and for years the curriculum has been controlled by this motive. This has led to greater emphasis being put upon clinical subjects, especially medicine and surgery. Psychiatry has been grouped with the lesser specialties and so has occupied but little time. It is proposed to increase the amount of instruction in this subject, and the search for subject matter has been directed in view of offering the type of courses most likely to be of help to practitioners in medicine.

Need for More Psychology

In a general way, it seems agreed, at least by medical psychologists, that more should be required of undergraduates in this field. In my opinion formal psychology should be covered prior to admission to the medical school. This should certainly include social psychology. It is also agreed, that the old line psychiatry should be taught in the medical curriculum. The relative frequency of insanity is great enough to demand a place for it there. It has little interest for the average teacher in a medical school and can best be given in a hospital for mental diseases.

Yet neither adequate training in psychology prior to admission to medical school, nor courses in institutional psychiatry, however elaborate they may become, touch the intricacies of the problems which every practitioner meets in his daily life. The doctor is by the nature of his work one of the 'wise men' of his community. His wisdom should be fortified by knowledge which has been gleaned of the social problems of psychiatry during the past few years. A number of years ago I was called upon to give a course in psychiatry for social workers. As time has gone on it has almost seemed that social workers have become better informed than practitioners of medicine in matters having to do with human behavior.

Course at Tufts

Therefore, this year Dr. Douglas Armour Thom has assumed the professorship of psychiatry at Tufts College Medical School and has

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planned to develop a course which will bridge the gap between more formal psychology and psychiatry. The subject matter to be covered may be divided conveniently into nine categories. Some theory will be given, but in the main the course will be clinical and will have to do with outpatient contacts. The nine categories are as follows:

(1) Children, who lead an instinctive life, not having acquired the customary reactions of adults. In the field of childhood the doctor is the first one who comes in contact with problems. Whether the problem be one of inadequacy on the part of the parents, or morbidity on the part of the child, the doctor is called in. This necessitates his having more knowledge than he gets as a parent or an intelligent citizen and this knowledge cannot be acquired unless special arrangements are made. The whole field covered by habit clinics and child guidance clinics should be presented to medical students. The average physician, I believe, meets most of these problems by prophesying that the child will outgrow his trouble, whatever it may be. Fortunately, this is often true, and yet more may be expected of trained physicians. One might believe that the department of pediatrics would cover this subject, but my experience has been that few pediatricians have the interest or enthusiasm to go into this field.

(2) The insane, whose conduct, once normal, has become unbalanced by a disease process. Insanity may well be covered by a distinct course given in a hospital for mental diseases. Here again the practitioner will probably never learn much of differential diagnosis or of abnormal psychology. So little is known of the fundamentals of insanity that it is dangerous to elaborate such a course into the realm of theory. Just as children are often taught in Sunday School things which they later find to be not true, so a great deal of the teaching regarding insanity does not ring true in later life. Mental disease today presents two concrete medical problems. The first is in the field of research; the second has to do with proper care. Practitioners should know the significance of certain symptoms; should understand how to use state hospitals, but need not be burdened with the intricacies of institutional psychiatry.

(3) The feebleminded, with undeveloped brains, who are therefore slower to acquire standards, and whose judgments are poorer. Students come in contact in a general way with institutional cases and institutional training, but more important is the relation of the backward child to the public school and his care and supervision in the community. The recognition of retardation during infancy is very important to both parents and child and yet is often deferred to the time of entering school.

(4) Abnormal or psychopathic personalities; those who are neither insane nor feebleminded, but inherently different or peculiar. These

individuals stand out in every community, whether this be a morbid trait requiring legal or medical interference or whether it be a sick individual whose peculiarities must be understood in order to get the best results. One must know human nature to be a successful practitioner. A recognition of outstanding traits which are peculiar often helps us to understand the normal much better. Most persons at some time in their lives show conduct patterns which, if they were due to traits, would lead to a diagnosis of morbid personality.

(5) The psychoneurotic, who are sane but inherently weak, not meeting stress successfully. Psychoneurotic individuals are rarely understood by the rank and file of doctors. Reports are just beginning to come in showing the tremendous importance of emotional disorders in practice. A department store physician reports seventy per cent of absenteeism due to functional nervous disease; a general practitioner reports eighty per cent of his time given to these troubles and Dr. Peabody estimated the problem as being fifty per cent of the work of the medical department of the Boston City Hospital. These individuals always go to the doctor first, but ordinarily get little satisfaction. They then scatter among specialists in the nearest city, religious healers, osteopaths and drug clerks. It should seldom be necessary to send a psychoneurotic to a specialist. Though their troubles have been elaborated into most fantastic systems of psychology in the last few years, my experience has been that they are comparatively simple. As I see such individuals they represent emotional reactions to situations. They fall within three general groups; first, individuals who are inherently and biologically unable to stand the ordinary cares of life; second, those who through sickness develop a morbid state of mind; and third, those whose social life is such that they can bear stress no longer. These situations ought to be clear to the average practitioner and he ought to be encouraged to feel assurance in dealing with them.

(6) Drug and alcohol addicts, whose conduct is modified by intoxication and its social results. Nearly every doctor has contact with this group and, whereas in a general way, he probably knows the special problems coming from drugs or alcohol, he should understand the deeper personality problems which so often account for addiction.

(7) Physical disease, with its depressing influences and economic handicap, often produces an emotional reaction or personality change calling for deep understanding on the part of the physician.

(8) Old age, causing some mental and physical enfeeblement and increased hazards. Old age is becoming more of a problem. The migration of the population to the cities; the method of living in apartments rather than in homes; the moving about of a large percentage of the people; in fact the relative decrease in the importance of the home, leave no place for the grandparents or the aged. Entirely apart from

insanity old people have undergone changes in their mental attitude. How often one sees a will contested in court, witnessed by a doctor who is but a partisan of one of the contesting parties, rather than an authority on the question in hand.

(9) Environment; either overwhelming evils change the reactions, or different types cause trouble when their environment is changed. The whole field of environmental reaction should be a part of the common knowledge of medical men. In this category may come domestic relations. People who are unhappily married sooner or later get to the doctor and he should have a store of experience from which to draw in advising them. Criminal conduct leads to the seeking of medical advice and is more often due to the hazards of neglected childhood than otherwise. Unemployment and occupational maladjustment frequently cause social problems which doctors have to deal with.

Where to Teach Social Psychiatry

The place to teach these types of social psychiatry is in the outpatient clinic. In the first place, here competent teachers may be found and here the tremendous array of social problems, with a psychiatric basis, eventually comes. Psychiatric clinics in specialized institutions tend to be narrow. They lack contact with other medical departments. A psychiatrist, working in an outpatient clinic in a general hospital, if he has the right point of view, soon draws all of the social problems enumerated above. These problems attract, in fact even fascinate, students because of the "human element." The careers of these individuals, if properly presented, show the various dramas and tragedies and farces of life which, if fixed in the mind of the student, will be of service as long as he is in practice.

To recapitulate, normal psychology should be taught in the undergraduate schools, with special emphasis upon its social aspects. Social psychiatry should be taught in the third year in the medical school by means of a few lectures, but largely through actual attendance at outpatient clinics in a general hospital. Institutional psychiatry should be taught in the fourth year by clinical lectures in a hospital for mental diseases.

Discussion

DR. MAURICE H. REES, University of Colorado: I should like to register a protest against one type of teaching of psychiatry, namely the teaching of abnormal phychology in arts courses to arts students. We find in most of the universities a psychologist who has had no training in psychiatry or in any medical subject giving courses in so-called abnormal psychology. We find it in our own university in summer courses; a man being brought in to teach courses in abnormal psychology when the only knowledge he has of such a subject is from textbook. Even his observation has been extremely limited. That type, I think, should be strongly protested against. The value of psychiatry as taught in the medical school, it seems to me, is of prime im-

portance. We are using it more and more in our own institution and find it not only beneficial from the standpoint of psychiatry but also find our students are getting a better grasp of general medicine from the things they find in the way of focal infections and other problems that are back of the psychopathic problems.

Dr. A. W. Stearns, Tufts College Medical School: I should like to agree with what has been said. Personally, at the risk of being called some sort of horrible specimen myself, I believe the fascination of abnormal psychology for undergraduate students lies in the fact that they have an opportunity to dabble with sex, and I think there are better ways of dabbling with sex than through courses of abnormal psychology. (Laughter)

The Teaching of Therapeutics*

HOBART AMORY HARE
Professor of Therapeutics, Jefferson Medical College

It may, I think, be truthfully stated that today adequate teaching in practical bedside therapeutics is to be found in only one or two medical schools in the United States. In a large number of the schools what little therapeutics is taught is offered the student as a subordinate department of what is called the practice of medicine, and in some of the schools there is no section in the catalogue or announcement indicating that therapeutics is taught at all, whereas there is such a section headed "Pharmacology," which word, if used in its broadest sense, would, of course, cover bedside therapeutics, but which as a matter of fact means pharmacological laboratory experiments.

Botany of Medicinal Drugs

Forty or fifty years ago medical students were still taught the botany of medicinal drugs, this teaching being a remnant of the idea that doctors would make up their own pharmaceutical preparations and must know the appearance of leaves, roots, etc. I well remember that I had to learn that kino was the inspissated juice of the *Pterocarpus marsupium,* but in a long experience this fact has not proved to be of the slightest value in the practice of medicine. At the present time the medical student is not taught this, but has a certain number of hours in sections or classes in experimental pharmacology. In not a single exception is there, or can there be, with the crowded curriculum, a sufficient number of hours devoted to individual laboratory pharmacology to be of any material value to medical students. In some instances it is six or twelve hours; in other instances it is a little more. In not one instance in a hundred does brief training in pharmacological laboratory work prove of value after graduation, and not more than one in a hundred of students is fitted by natural ability to do research laboratory work. It is impossible to make a man, even if he has laboratory ability, an efficient laboratory worker in the period of a few weeks even if his whole time is devoted to it, and these laboratory courses do not fit him to treat the sick but rob him of the time which should be devoted to bedside teaching and practical therapeutics.

Teaching of Bedside Therapeutics

At present when he graduates, the student is neither a good bedside man nor a good laboratory man. I think it may be safely stated

*Read before the American Therapeutic Society, June, 1928.

that it is more important that a student should be taught good bedside therapeutics than it is that he should be taught good physical diagnosis.

Today on graduation the average man may know the chemical structure of sulphonal or barbital, but too often he does not know the cases in which they are indicated and the cases in which they are contraindicated.

In one of the schools which is considered among the best in the United States prescription writing is taught at the beginning of the first year! A time about as far removed from the period of its ultimate usefulness as can possibly be reached, and when the student knows nothing of drugs or disease. Prescription writing should be taught in association with bedside therapeutics when the student can directly apply his knowledge to the treatment of a patient whose case is put before him. In his first year he makes up theoretical formulae without knowing why he is doing so.

Pharmacology a Postgraduate Course

I believe that pharmacology in the sense of experimental therapeutics is a very proper thing as a postgraduate course in a medical school. In such a department students who possess investigative ability have an opportunity to do original work.

As I have pointed out before, one of the reasons that so many physicians prescribe ready-made tablets, tinctures, elixirs, etc., containing more than one drug, is because they do not know how to prescribe, and in many of the hospitals prescriptions are made up in large quantities. For example, one of them is labeled "No. 9—for Bronchitis," and when a patient comes in suffering from bronchitis he gets No. 9 in the same dose of each ingredient as every other patient who has bronchitis, be his age, weight, and stage of disease what it may, and thus the youth is trained no better than before.

Some of the schools have placed at the head of the department of pharmacology and therapeutics a professor who is not a graduate in medicine, who has had no bedside experience whatever, and is entirely unacquainted with the needs of the practitioner at the bedside. These men, all of them so far as I know, are deserving of the highest praise for having devoted themselves to original research in pharmacology, but they are quite unfitted to teach or direct the teaching of young men who are going to make their living by resorting to practical therapeutics in the case of the sick.

Deficiencies of Recent Graduates

Recently I was told by a young physician when I asked if a new patient had been admitted to the hospital, that there was a "Gram positive case," but he had no correct conception of the treatment that the patient ought to receive.

In another instance, in an examination (not one of my own students I am glad to state) the young man was able to make a diagnosis of auricular fibrillation from examining an electrocardiographic tracing, but when told to auscult the patient, could not recognize the presence of a mitral stenosis and had not the faintest conception of the proper method of administering digitalis in a case of this character if compensation was ruptured.

Without practical therapeutic teaching, it is almost impossible for the student to know of contraindications as well as indications for the use of a remedy. He is "long" on laboratory diagnosis and, perhaps, laboratory technic; he may be able to tell the professor of ophthalmology the difference between paralytic and concomitant squint, but he cannot write a prescription for diarrhea, and when he attempts to write such a prescription, he is very apt to produce a compound which pharmaceutically and chemically is so absurd that the druggist can only pursue one of two courses; to humiliate him by telling him of his errors and lack of competency, or make such variations in the prescription as will enable him to produce a product which will not be so obviously ridiculous as to reflect on the physician and the druggist as well.

Laboratory Training versus Bedside Experience

Therapeutics can no more be taught in the abstract than physical diagnosis can be taught in the abstract; that is to say, in the absense of the patient, or at least a theoretical patient. Those who are, very properly desirous of diminishing the use of haphazard compounds widely advertised by manufacturers would accomplish much more if they ceased to rail against such preparations and taught medical students practical therapeutics to an extent which would enable them to prescribe drugs in suitable doses and in suitable forms for a given patient.

The medical curriculum, in general, at the present moment is too crowded, beside therapeutics has been pushed to the wall by laboratory enthusiasm and by the devotion of many useless hours to specialties, no one of which should be followed by a young graduate until he has had real special training.

I remember very well in my youth being told by my Chief to puff a dusting powder into the external auditory canal of a child with middle ear disease, but I had not been taught what the ingredients of such a dusting powder should be, and the nurse had to instruct me as to which end of the puffer I should put in my mouth; her courage to give me this information being aroused by the fact that I was about to put the wrong or unclean end in my mouth. A powder was to be "puffed," but how I did not know.

Practical Teaching of Therapeutics

Since the preceding text was written I have read with interest and

profit the article by A. S. Hirschfelder in the January issue of the JOURNAL of the Association of American Medical Colleges. If the course he describes represents what should be carried out for undergraduate students in general, it is most deserving of hearty endorsement because it shows the student what is to be to him of practical value, and because in each instance in which experiments on living tissue are to be carried out, the teacher prepares the experimental material or directs its preparation so that the experiment is a success. But if by experimental pharmacology it is meant that a group of from ten to twenty students is to try to cut the cervical sympathetic to see the difference in reaction when a drug is dropped in the eye from what it is on the normal eye, or if the course involves the use of the kymograph, the oncometer and the various forms of electrical apparatus used in physiological research, then many hours a week for an entire year would be needed to make even a small proportion of the class competent to do real pharmacological research for the average student has little mechanical ingenuity and still less genius for research.

What the student needs today is work such as Hirschfelder describes and to be put alongside a bed in a ward, or elsewhere, and be taught the drug or drugs and the doses that are needful in a particular patient. I rejoice to see that Hirschfelder uses methods which lay the foundation for rational bedside treatment.

After all, are we not all striving to make students good physicians and is not the plan, described by H. R. Wahl in the January issue of this JOURNAL, pretty nearly just what the undergraduate ought to do? He says:

Learning Prescribing by Practice

"The student has the opportunity to carry out the medication himself directly under the supervision of an intructor who stands ready to check up any break in technic. He acquires practice in various modes of administering drugs and in their preparation. He is constantly shown the value of the scientific attitude in this work. He is encouraged to ask questions. He is taught how to manage different types of patients. He has the opportunity of seeing variation in effect of the same drug or the same administration on different individuals. The student also soon realizes what is meant by rational therapy and can correlate his work in the pharmacologic laboratory with that in the treatment clinic. He acquires more respect for the pharmacologist and at the same time understands the antagonism that occasionally exists between the busy clinician and the pharmacologist whose experience is often limited to the effect of drugs as he notes them on animals. Furthermore, when the student administers the treatment, he has before him the complete history of the patient so that he can see the effects of previous oral medication and can compare these with those following other modes of treatment."

Looking Backward and Forward in Medical Education*

WILLIAM J. MAYO
Rochester, Minnesota.

During the ten thousand years of Egypt's history and near history there were no less than eight complete relapses into barbarism. The relics uncovered from the sands of time show much of interest in medicine, but comparatively little of scientific value.

The great advance in civilization which was evidenced in Greece was possible because Greece had ports on the Mediterranean through which entered not only commerce but also the culture of the East, which was recognized and incorporated by Greece into her national life, and brought to her an undying fame. While it is conjectural, there is evidence to show that the early history of Greece was influenced by 60,000 of the Nordic race who in the dawn of history had penetrated south into the Mediterranean terrain and contributed greatly to the glory of Grecian civilization. It is not here important to trace this hegira, except as it helps to account for the likemindedness among the races of northern Europe, from whom the peoples of the United States sprang, with the ideals of ancient Grecian and Roman culture.

Mathematics we owe to the Greeks during their great days. As every student knows to his sorrow, time has not dimmed the importance of Euclid or minimized its difficulties.

The Arabic system of numerical symbols, upon which our system of numerical calculations is based, contributed greatly to scientific advance. There is a tradition that the sidereal year, which was inherited from the Babylonians, was divided into thirteen months with the year day and a leap year day. A return to this convenient method of reckoning time may come, to replace the Gregorian calendar of twelve months with an uneven number of days in the months.

The progress of civilization was influenced to the greatest extent, however, by the adoption by the Greeks and Latins of the Phoenician alphabet, which supplied a basic principle of language. The stately language of Spain with about 120,000 words, of which only about 30,000 are in use, represents classical culture. Compare this with the English language with 500,000 or 600,000 words through enrichment by additions from various other languages. The very amplitude of English must make it the universal language.

The Chinese, without an alphabet, developed a system of ideographs, in which each character represents a word or idea. There are ap-

*Read at the dedication of the new Medical Plant of the University of Iowa, November 15, 1928, Iowa City, Iowa.

proximately 50,000 of these signs, 25,000 of which are too ancient to have value. The learned Chinaman probably knows not more than 12,000 characters, the man of average education not more than 6,000 and the ordinary coolie or laborer 100 or less.

Superstition and Medicine

The world has lost much by the paucity of evidence of early Chinese culture, especially as related to medicine. For example, Professor John Abel points out that the use of toad skins for dropsy by the Chinese, formerly supposed to be purely superstition, has scientific basis. Concoctions made from toad skins have been analyzed and found to contain a considerable percentage of a substance digitalis-like in its action. Certain large South American toads carry in pouches under the angle of the jaw a poisonous secretion from which Dr. Abel has extracted a crystallin substance which is essentially like epinephrine. The natives of the section of South America in which these toads are found make a potent arrow poison from the combined principles of the pouches and skins. Evidently the affect of the digitalis on the vagus is accentuated by the effect of the epinephrine on the blood vessels, so that death ensues rapidly.

Religion and Medicine

As a matter of fact, the early history of medicine generally is shrouded in a mist of folklore which has been handed down through the records contained in religious rites and fragmentary documents incapable of evaluation, in which one, nevertheless, can trace sound hygienic truths. The rite of circumcision practiced by certain tribes of Africa as a religious ceremony, originated as a measure to prevent filarial disease, which was much more common in the male than in the female, because of the long foreskin. In the laws of Moses, handed down as religious doctrines, are reflected basic hygienic rules.

Emotions and Medicine

Be this as it may, the greatest appeal of early medicine was to the emotions. In the ancient sense, to reach the emotions meant to arouse consciousness of the feelings of fear, anger, and hunger, the primitive urges of life. The attempt to locate the emotions, as we understand them today, in certain areas of the brain, can refer only to those emotions which appeal to intellectuality, and which undoubtedly are not generated in a particular part of the consciousness, but are an outgrowth of all those evolutionary changes which have been made by the progenitors of man from the invertebrate stage to the primates.

If one were to comment on modern medicine, one might say that the relation of the emotions of man to his physical condition is even less

understood now than in prehistoric times. In medicine we have become so grossly material in our endeavor to demonstrate a physical basis for every form of ailment that we have lost sight of the fact that happiness is a state of mind, and life what we believe it to be. We must not overlook the fact that unstable emotions react on the physical condition of the patient in the same manner that perverted physical states activate emotional instabilities and that the emotions control the most important events in human existence. Emotional reactions to unfortunate social environment, mental worry, and poverty, are the mainspring of human unhappiness.

Medicine of the Ancients

It is almost trite to say that the beginnings of clinical medicine were with Hippocrates. The "Aphorisms" of Hippocrates should be read time and again by every man who practices medicine.

To Aristotle and his students we owe the formulation of scientific methods based largely on deductive reasoning and primitive forms of inductive logic. Aristotle was the physician of Alexander the Great. When in the year 323 B. C. Alexander died and his conquered world was divided, it was his general, Ptolemy, who established a library and museum on the delta of the Nile in the city named for Alexander. For 300 years Alexandria was the center of learning, and it was here that the students of Aristotle gave an impetus to general science as well as to medicine through the development of scientific methods, which might be said to be the foundation stone of modern medicine.

After the death of Cleopatra, the last of the ill-fated line of the Ptolemies, Egypt and the Near East again relapsed into barbarism. The knowledge accumulated there was preserved by the priesthood, however, through the dark ages which followed the fall of the Western Roman Empire early in the sixth century.

Medicine and Science

In the twelfth century there dawned the second great epoch of scientific advance. Abelard, Lombard, and others of this period were leaders in this ressurection of thought, and taught that understanding is essential to belief, in contradistinction to the ecclesiastical concept that belief is essential to understanding. From the intellectual controversies of the times grew the University of Paris, founded in the first decade of the twelfth century, to be followed by Oxford University in 1210, and Cambridge in 1231, the first evidences of systematic education in medieval times. This period ushered in the Renaissance, the spiritual revival which culminated in England and northern Europe in a complete change in ecclesiasticism.

The establishment of post offices in France by Louis XI in the

fifteenth century greatly aided the diffusion of knowledge, and this system was taken up quickly in other European countries.

Third Epoch of Medicine

The name of William Harvey is inseparably associated with the third epoch of medicine. Harvey studied anatomy at Padua, Italy, under Vesalius, and on his return to London he became one of the physicians to St. Bartholomew's Hospital, and a lecturer on anatomy and physiology in the College of Physicians. It is of historical significance that he was the physician of Francis Bacon, the man who formulated inductive logic, which led to experimentation and research, the building of images to be compared with known facts.

As new evidences of Harvey's activities come to light, for instance, the researches of Dr. Le Roy Crummer, we gain a better perspective of the extraordinary character of his work. Harvey pointed out that the function of the pericardium is to prevent the heart from bursting during violent exercise, and that the peculiar twisting motion of the heart during systole is to empty its cavities completely of blood, as a wet cloth is freed from water by wringing. All of the scientific work of Harvey was characterized by the same logical association of the facts that he manifested in his observation of the circulatory system.

Bacon in his "Novum organum" stressed the misuse of authority in the schools of learning and the universities which, he pointed out, resembled the misuse of authority in the lives of men by the ecclesiastics. Today misuse of authority of one form or another continues, chiefly because older men, who have reached the stage in which they believe they see permanence of their ideas, attempt to control the opinions of future generations. It is a rule of life that dreams and visions belong to youth, and the wisdom of experience to age, but it is an age no longer with the radiant tissues of youth, but with the atheroma of advancing years.

John Mayow, who was the first of the physician chemists and whose investigations led to the discovery of oxygen, was, with Harvey and Bacon, of this Elizabethan or Shakespearean Age. The impetus given by the work of Harvey, Mayow and their scientific contemporaries led to rapid advances in clinical medicine.

The Microscope

The introduction of the microscope by the Janssen brothers, in 1590, was the most important event in scientific medicine. Modern medicine may be said to have begun with the microscope. The brain of man is a visual brain. In the lower vertebrates the brain was developed from the olfactory ganglion. In the primates, of which man alone has achieved pre-eminence, the cerebrum was developed from the visual

centers, and all of the higher functions reside in the cerebrum and frontal lobes, which have overthrown the dominance of the olfactory sense. The sense of sight in man reaches directly to consciousness, and governs behavior.

We may pass rapidly over the 200 years between Harvey and the Hunters, who organized medicine as a whole. It should never be forgotten that the work of the Hunters in tracing the development of the lymphatic system can be compared only with the work of Harvey in value and logical sequence.

The microscope, as it gradually was improved, enabled Virchow to elucidate his theory of cellular pathology, Schmiedeberg to develop pharmacology, and, above all, made possible the work of the incomparable Pasteur and Lister.

Early Standardization in Medical Education

In the early part of the nineteenth century medical education began to show evidences of standardization, and this movement was first manifest in England. Although Italy, France, Belgium, and other European countries during the middle ages had furnished foundation stones in special lines of work, these fields, as developed, lacked co-ordination with clinical medicine. In England was the beginning of clinical investigation in which knowledge was more definitely correlated with bedside teaching. Considering, for example, Guy's Hospital, London, we note that here in the period from 1828 to 1838, Richard Bright, engrossed by the problems of nephritis, brought out monographs on this subject. The problems discussed were fundamental, and when it is considered that Bright carried out his experiments with a tablespoon, a candle, and nitric acid, supplemented by postmortem examinations, it is a great tribute to the man that his work still stands as the beginning of knowledge of the physiology and the pathology of the kidney.

Addison, in 1849, described pernicious anemia in a few pages, which dealt thoroughly with the fundamentals of this disease, and discussed the disease of the suprarenal capsules which carried his name. In 1855, he expanded this article on disease of the suprarenal capsules into his epoch-making monograph "On constitutional and local effects of disease of the suprarenal capsules." In the same period, Samuel Wilks made clinical investigations on disturbances of mentality, and Hodgkin made a study of that glandular disturbance which has been given his name which still is baffling as to whether it is an entity or a form of lymphosarcoma.

Fagge's "The Principles of Medicine"

Hilton, at about the same time, made those observations which he embodied in a book, "Rest and pain," which my father believed to be the most useful work of its kind that he had ever read. Hilton's

nephew, Hilton Fagge, related postmortem findings with the clinical data in connection with cirrhosis of the liver and a host of other maladies, at that time obscure. Fagge wrote also "The principles of medicine." His early death before he had finished the second volume deprived the medical profession of the completion of the most useful system of medicine of its day. Like Osler's "Principles of medicine," Fagge's text is worthy of study today. In this period also Jacobson wrote his "Operations of surgery," with keen analysis and fine judgment. In my earlier years in medicine I studied this book faithfully, and it proved to be one of the most valuable texts with which I came in contact. Jacobson did not become full surgeon in Guy's Hospital until he was 55 years of age, and he held the position then only a few years.

Thus the historical events of Guy's Hospital represent an extraordinary record of only one of the many great hospitals of Great Britain.

Early Developments in Medical Education

In Scotland anatomy was developed as the base for surgery, and the Scotch school remains the leader in fine surgical dissections on an anatomic basis.

In the middle of the eighteenth century, owing largely to the improvements in the microscope, France surged to the front in scientific medicine, and many of our most prominent teachers of medicine were educated there.

I have in mind particularly the late Maurice Richardson of Boston.

In the development of the germ theory, Germany with her usual thoroughness quickly gained supremacy, especially in the laboratory branches, a position which she held up to the outbreak of the world war.

I do not feel competent to undertake a comparison of the methods of teaching in the countries of Europe, because the many trips I have made abroad have been for the purpose of adding to my store of knowledge of surgical subjects, but I might comment in a general way.

Medical Teaching in Germany

In Germany the tendency has been to teach medicine through lectures extraordinarily complete in detail and with knowledge of the fundamentals of the subject, of which we have no counterpart. Excellent examples of this school today are the medical clinic of Freidrich Mueller at Munich and the surgical clinic of de Quervain in Bern, Switzerland. In these clinics, however, the students do not take an active part in bedside observation and care of the sick.

Medical Teaching in England

In England the manifest idea of medical education has been to make good physicians, and almost from the beginning students are

brought into contact with the sick. I believe that, from the clinical standpoint, England today turns out the best physicians of any of the countries I have visited. English methods have more or less controlled American education, so far as our limited hospital facilities in the past permitted.

Medical Teaching in the United States

In the early period of medical education in the United States, the preceptor system was in force. The prospective medical student served time with a practicing physician, which oriented him in his quest for knowledge. His medical school attendance was relatively short, usually two years of four or five months each, on the lecture system, with short laboratory courses in anatomy and other fundamental branches.

The many medical schools which came into existence indiscriminately accepted students, many of them without cultural background. The great number of poorly trained men thus turned out illustrated the necessity of improving the cultural standards and facilities for medical education. This movement culminated in the splendid report on medical education by Abraham Flexner of the Rockefeller Foundation, which focused attention on the general inadequacy of medical education in this country, and led to a great reduction in the number of medical schools. The privately owned, stock-company medical colleges disappeared, and the regulations for medical education in the Class A medical schools rapidly made medical education in American schools the equal of that of any medical schools in the world. Our general tendency has been to combine the thoroughness of the German education in the fundamentals with the clinical instruction of the British.

Medical Education for Education's Sake

The pendulum has swung from the poor medical school, with its one virtue of teaching clinical medicine, to the splendid medical schools of today, which place less emphasis on clinical and bedside instruction, and stress rather education for education's sake.

To a large extent the clinical side of medicine has taken a subordinate position to the accumulation of knowledge. Students have been overworked and have not had time to think. Memory tests have been thought to be adequate to gauge how good a practitioner a student would become, and memory tests have failed woefully to justify their prognostications.

The educator has assumed almost full charge of medical education. The educator is a man who teaches some set subject of which he has great knowledge, but without a clinical background. The attempt is to make the student an all-round specialist and the purpose of medical education, the relief of the sick, is too often forgotten.

Especially has the cultural background been overemphasized. We

have followed the old English idea that to be cultural a subject cannot be of such a nature that it can be used for gain.

Modern educators recognize that the useful may be cultural. The study of the anatomy and physiology of man is as cultural as the study of the anatomy and the physiology of the stars, or the rocks, or any other subject.

Rearrangement of Medical Curriculum

I should like to see general anatomy and physiology, chemistry, and the so-called basic science subjects taught in the premedical courses, the application of these subjects to medicine taught in the first two years of the medical course, and the last two years given up entirely to clinical medicine through contact with the sick.

ANATOMY. In anatomy special attention should be given to relating the internal anatomy with external anatomic landmarks, so that the diagnostician may be able to visualize the internal organs by virtue of visible markings. One of the most useful books I ever studied was Holden's "Landmarks," which was published as an appendix to the earlier editions of "Gray's anatomy," and is still included under the title, "Surface anatomy and surface markings."

SURGICAL ANATOMY. Surgical anatomy should be taught in the medical school with relation to operations of necessity, operations in which the question of delay is more vital than the question of skill: for instance for strangulated hernia, acute appendicitis, trauma, and especially fractures and injuries, which the motor cars so tragically have increased. The specialized anatomy of operations of expediency has but a small place in the hands of the general practitioner.

SURGERY. Admitting that in my early days surgical procedures were learned on and at the expense of the patient, because there was no other way to learn in an advancing subject, today the untrained man has no right to perform operations which are not immediately necessary. He has neither the skill nor the experience to carry out this work, and above all, the Golden Rule should prevent him from performing operations which he would not permit others of the same training to perform on him or members of his family.

PHYSIOLOGY. It was a great pity that the students of the English anatomist, Sharpey, should have separated the teaching of physiology from the teaching of anatomy and carried microscopic morphology into the teaching of physiology. Merely that the anatomic picture was microscopic did not justify separation of cause and effect. The anatomy is the building in which the purposes of the organs are carried on. Anatomy and physiology should be studied together.

BIOCHEMISTRY. Biochemistry is the chemistry of living processes. When one can visualize and comprehend the anatomy and physiology

of a tissue with the unaided eye, or the eye aided by the microscope, we call it anatomy and physiology, yet physics and chemistry as related to the chemical field are simply the anatomy and the physiology of those minute structures which lie in the field of the colloids, between the microscopic limits of 1/10 micron or 1/250,000 inch and 1/1,000 micron or 1/25,000,000 inch.

Physics and Chemistry. The teaching of physics and chemistry is too often in the hands of men who have little understanding of the medical student's problems. The student learns many uninteresting formulas because he must, yet there is nothing more interesting than biochemistry as related to the fundamental processes of life. Professor Gortner, of the University of Minnesota, whose studies in colloid chemistry have so greatly advanced agriculture, stresses the value of the teacher eliciting the interest of the student in biochemistry, and gives many examples.

Consider chlorophyll, the green coloring matter of plants, which has the power to use the energy of the sun's rays to remove the carbon dioxide from the air and minerals from the earth and deposit them in the form of carbonaceous compounds. Will it not interest the student to know that magnesium is the essential element in the transformation of the sun's rays in chlorophyll? To know that the oxidation of carbonaceous substances is due to one or more atoms of iron in each molecule of hemoglobin, that copper in place of iron is found in certain of the lower forms of life, and that copper has an important function in respiration?

Seventy-five per cent of the human body is composed of water, bound in some unknown manner into 75 per cent of its former volume, yet there is no known mechanical apparatus that will compress water. Will it not aid the medical student to understand the delicate acid-alkali balance of the body fluids, and those minute changes toward the alkali or acid which are of fundamental importance in clinical medicine?

Faults of Medical Education

The trouble with present-day medical education is that it attempts to teach the student to memorize and store facts, many of which can be learned readily from books without burdening the mind, and enable him to use his knowledge with wisdom. After all is said, graduation from a medical school merely enables the student to enter on his life of study.

There is a tendency to make the profession of medicine an aristocracy. The cost of medical education, the number of years before men can be self-supporting, the age at which students are graduated, averaging about twenty-seven years, is driving many bright men into other professions. Yet investigation has shown that the student who is graduated before he is twenty-five is of greater average professional

worth at the end of fifteen years than the one who is graduated after twenty-five.

Saving Time

The proportion of the enormous cost of medical education borne by the taxpayers or by endowed funds is three times the amount paid by the student, and this burden is carried willingly by the people for the purpose of having good physicians. I believe that the function of the medical school is to turn out medical practitioners and that the specialties should be taught after graduation in medicine. I believe that one year should be saved in our grammer schools, and that adequate cultural education should be given in the high schools, so that the premedical course might be devoted to the basic science subjects, saving two years of time, and that the medical school should devote its time to the proper education of general practitioners.

Four-Quarter System

Further, I see no reason why the four-quarter system should not be adopted in high schools and colleges as well as in the medical schools. Why young people at the strongest time in their lives physically and mentally should have a vacation of three months, when the world is on the twelve-month working basis, I am unable to see. By adoption of some such program our medical students would graduate well under the age of twenty-five, and have sufficient time to develop specialties as graduate subjects.

As one looks into the future of medical teaching, one must recognize at once the impossibility of doing more for the medical student during the time he is being educated as a general practitioner than to give him a good working knowledge of the fundamentals of clinical medicine.

Correlation Teaching

In some manner there must be correlation of the work of the specialist as applied to the sick man, and this must come through well educated general practitioners. The patient cannot know what specialist he should consult, and the specialist cannot know the needs of the patient beyond his specialty.

We must bear in mind the difference between thoroughness and efficiency. Thoroughness gathers all the facts, but efficiency distinguishes the two-cent pieces of non-essential data from the twenty-dollar gold pieces of fundamental fact.

We must recognize the limitations of the human mind. We must see that our students are not burned out mentally in the attempt to do the impossible. And if our problem is complex at the present time, in what one might call the microscopic era of medicine, how much more difficult it will be in the coming ultramicroscopic era, for the human mind to cope with the intricacies of the newer and more important studies.

On every side we have evidence of the changing character of medical education, and it will take the best minds in the medical profession to solve the many problems which immediately confront us.

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Fortieth Annual Meeting

New York

November 7, 8 *and* 9, 1929

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Joint Session with

Association *of* American Universities

November 8

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Place of Meeting

Columbia Medical Center

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Headquarters

Hotel Pennsylvania

Analysis of Entrance Requirements of Entrants to Medical Schools in Fall of 1928

By the Secretary

Examination of the credentials for admission to medical schools submitted by students entering the freshman class of 73 schools in Classes A and B in the Fall of 1928 discloses some very interesting data bearing on premedical education. Apparently, prospective medical students are solving this problem in their own way, without outside pressure being brought to bear. They do not seem to be worrying about shortening the time of their education; on the contrary, they know what they are after and are willing to pay the price by spending more time in school than the minimum requirement.

Of the 5,950 entrants, only 1,363, or 22.89 per cent, entered on the two year college requirement; 1,830, or 30.75 per cent, had three years of college work, and 2,510, or 42.18 per cent, came with a degree! A small group, 247, or 4.15 per cent, had four or more years of college work but did not receive a degree. Adding these to the degree group, 2,757, or 46.3 per cent, had more than three years of college work.

These figures are very significant and give much food for thought. They would seem to settle definitely the contention made by some that requirements for admission should be lowered in order to encourage more men and women to enter on the study of medicine. Correlated with this statement should be the fact that not all those who are accepted by medical schools each year matriculate. That is, more students are accepted than come. Incidentally, this fact indicates that the medical schools are prepared to take on a greater number of students; hence there is really no need for organizing more schools at the moment, nor to urge existing schools to take on more students. There is no need to get excited over the situation as depicted by some; on the contrary, there is every reason for remaining calm, for "all is well."

Analysis of the data presented in the table discloses many points for discussion. Mention will be made of but a few, for even "he who runs may read."

Seventeen schools have no two year men. Two of these require a degree for admission; 11 require three years and 4 two years.

Of the schools that admitted the 1,363 two year men, 8 have more than 50 per cent of their class in that group. One school has more than 60 per cent and one more than 70 per cent. It should be stated that this survey does not take into consideration the fact that some of these two year men will be candidates for a degree at the end of the sophomore year in medical school. This analysis is based entirely on the returns made by each student of the total of 5,950 stating on what credentials he was admitted. Doubtless many of the three year men will receive a degree at the close of the freshman year. To have extended the analysis in this direction would have increased the labor very considerably although it would have added weight to the statement made above, that students are seeking and getting more education, rather than less, previous to entering on the study of medicine.

Of the remaining schools admitting two year men, 7 have up to 5 per cent; 3 up to 10 per cent; 14 up to 20 per cent; 9 up to 30 per cent; 10 up to 40 per cent; 6 up to 50 per cent.

Of three year men, one school has less than 5 per cent; 2 schools less than 10 per cent; 9 less than 20 per cent; 20 less than 30 per cent; 16 less than 40 per cent; 11 less than 50 per cent; 9 less than 60 per cent; 3 less than 70 per cent and one school has nearly 80 per cent.

School	No. in Class	Entrance Requirements Semester Hours	2 Years		3 Years		Degrees						4 Years No Degree	
							AB		BS		Others			
			No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Alabama	60	60	8	13.33	29	48.33	10	16.66	5	8.33	1	1.66	7	11.66
Arkansas	45	60	9	20.0	15	33.33	8	17.7	4	8.88	1	2.2	7	15.11
(5 yrs.–no degree)	....	.....	....	.....	....	.....	....	.....	....	.....	.....	.....	1	2.2
Stanford	48	90	....	.....	30	62.5	11	22.91	1	2.08	3	6.2	3	6.2
California	61	90	....	.....	46	75.4	9	14.7	4	6.55	.....	.....	2	3.28
Med. Evan.	82	64	42	50.6	22	26.8	12	14.6	3	3.63	2	2.4	1	1.2
Colorado	54	60	10	18.51	27	50.0	6	11.1	2	3.7	3	5.5	6	11.11
Yale	52	90	....	.....	8	15.3	26	50.0	14	26.9	3	5.7	1	1.9
Geo. Wash.	89	60	17	19.11	45	50.56	14	15.72	9	10.1	....	.....	4	4.49
Georgetown	149	60	86	57.71	16	10.73	19	12.7	24	16.1	1	0.67	3	2.0
Howard	60	60	2	3.33	15	25.0	17	28.3	16	26.6	....	.....	10	16.6
Georgia	41	60	21	51.2	9	21.9	5	12.2	3	7.31	1	2.4	2	4.87
Emory	62	60	12	19.35	23	37.0	6	9.67	20	32.3	1	1.6	....	.....
Northwestern	127	65	21	16.52	50	39.37	23	18.1	19	1.49	5	3.9	9	7.0
Illinois*	136	60	67	49.25	41	30.14	8	5.8	6	4.4	7	5.14	7	5.14
Loyola	131	60	80	61.0	19	14.5	8	6.1	16	12.2	2	1.5	6	4.58
Indiana	102	60	42	41.2	28	27.45	15	14.7	5	4.9	3	2.9	9	8.82
Iowa	159	60	64	40.24	54	33.3	18	11.3	5	3.14	7	4.4	11	6.91
Kansas	73	60	19	26.0	26	35.6	16	21.9	4	5.47	3	4.2	5	6.8
Chicago	90	Degree	....	.....	....	.....	44	48.8	43	47.7	3	3.33	.....	.....
Louisville	90	60	18	20.0	32	35.5	23	25.5	7	7.77	6	6.66	4	4.44
Tulane	124	60	46	37.09	32	25.8	25	20.0	17	13.7	....	.....	4	3.22
Johns Hopkins	72	Degree	....	.....	....	.....	49	68.0	20	27.7	3	4.1	.....	.....
Boston	68	60	18	26.44	11	16.17	17	25.0	17	25.0	3	4.4	2	2.93
Harvard	125	60	....	.....	11	8.8	72	57.5	36	28.8	5	4.0	1	0.8
Michigan	159	60	22	13.83	66	41.50	53	33.3	10	6.2	4	2.51	4	2.51
Detroit	56	60	....	.....	32	57.14	18	32.0	2	3.5	....	.....	4	7.14
Tufts	135	60	52	38.51	27	20.0	25	18.5	22	16.2	7	5.1	2	1.48
Maryland	129	60	8	6.20	41	31.77	25	19.3	32	24.8	20	15.5	3	2.32
Minnesota	104	60	37	35.57	47	45.19	11	10.5	.....	.....	3	2.88	6	5.76
Mississippi	36	60	23	63.88	9	25.0	1	2.77	2	5.5	....	.....	1	2.77
Missouri	40	60	1	2.50	23	57.5	7	17.5	4	10.0	1	2.5	4	10.0
St. Louis	167	60	53	31.73	37	22.15	34	20.35	32	19.1	8	4.79	3	1.79
Washington	82	90	1	1.21	22	26.82	32	39.0	16	19.5	3	3.65	8	9.75
Nebraska	93	65	34	36.5	40	43.0	9	9.6	3	3.2	3	3.2	4	4.3
Creighton	51	60	27	52.9	15	29.4	....	.....	5	9.8	2	3.9	2	3.9
Dartmouth	19	86	....	.....	13	68.42	3	15.7	3	15.7	....	.....	.....	.....
Columbia	108	72	1	0.92	18	16.6	58	53.7	18	16.6	5	4.6	8	7.4
Albany	40	60	1	2.5	19	47.5	7	17.5	10	25.0	3	7.5	....	.....
Buffalo	72	60	35	48.6	13	18.0	7	9.7	11	15.3	3	4.2	3	4.2
Long Island	120	72	32	26.6	33	27.5	13	10.8	36	30.0	1	0.83	5	4.16
Syracuse	52	60	8	15.38	27	51.92	13	25.0	2	3.84	.....	.....	2	3.84
N. Y. Univ.	133	72	1	0.75	40	30.0	33	24.8	52	39.8	6	4.5	....	.....
N. Y. Homeop.	102	60	18	17.64	30	29.41	3	2.9	48	47.0	1	0.98	2	1.96
Cornell, N. Y.	41	90	....	.....	3	7.31	20	48.7	15	26.5	3	7.31	....	.....
Cornell, Ithaca	26	90	....	.....	12	46.15	10	38.4	4	15.3	....	.....	.....	.....
Rochester	35	90	....	.....	5	14.28	11	31.4	17	48.5	1	2.85	1	2.85
N. Carolina	40	60	2	5.0	20	50.0	8	20.0	6	15.0	3	7.5	1	2.5
Wake Forest	28	65	5	17.8	13	46.42	3	10.7	5	17.8	.....	.....	2	7.14
N. Dakota	31	60	2	6.45	17	54.83	10	32.2	1	3.22	.....	.....	1	3.22
Western Reserve	71	90	....	.....	8	11.26	41	57.7	20	28.1	1	1.40	1	1.40
Ohio State U.	96	60	12	12.5	42	43.75	32	33.3	5	5.2	2	2.08	3	3.12
Cincinnati	75	60	26	34.6	17	22.6	20	26.6	5	6.6	3	3.9	4	5.3
Oklahoma	62	60	18	29.03	16	25.8	13	20.9	8	12.9	3	4.8	4	6.45
Oregon	65	90	....	.....	27	41.53	12	18.4	15	23.0	2	3.07	9	13.84

Pennsylvania	112	90	....	.....	27	24.1	51	45.5	32	28.5	....	.....	2	1.78
Jefferson	172	60	....	.....	65	37.73	41	23.8	58	33.7	6	3.4	2	1.16
Woman's Med.	39	60	7	17.94	8	20.51	19	48.7	4	10.2	1	2.5	.....	.....
Hahnemann	162	60	65	40.1	43	26.6	15	9.2	28	17.2	7	4.3	4	2.4
Pittsburgh	67	60	21	31.34	26	38.8	2	2.9	14	20.8	1	1.4	3	4.47
Temple	64	60	7	10.93	24	37.5	13	20.3	18	28.1	2	3.12	.....	.....
S. Carolina	41	60	2	4.87	13	31.7	15	36.5	11	26.8	.....	.....	.....	.....
S. Dakota	28	60	8	28.5	9	32.14	5	17.8	5	17.8	.....	.....	1	3.57
Tennessee	111	60	37	33.3	41	36.9	13	11.7	11	9.9	3	2.7	6	5.4
Vanderbilt	49	90	....	.....	13	26.53	27	55.1	9	18.3	.....	.....	.....	.....
Meharry	67	60	....	.....	2	2.9	34	50.7	28	41.7	1	1.49	2	2.9
Texas	100	60	14	14.0	40	40.0	26	26.0	8	8.0	8	8.0	4	4.0
Baylor	98	60	39	39.79	27	27.55	15	15.3	5	5.1	5	5.1	7	7.14
Utah	28	90	....	.....	18	64.28	5	17.8	1	3.5	.....	.....	4	14.28
Vermont	42	72	8	19.04	24	57.14	2	4.7	4	9.5	1	2.1	3	7.14
Virginia	69	60	23	33.3	20	28.98	7	10.1	13	18.8	1	1.4	5	7.24
Med. Coll., Va.	88	60	25	28.4	29	32.95	14	15.9	13	14.7	6	6.8	1	1.13
West Va.	65	64	27	41.53	21	32.3	10	15.3	4	6.1	.....	.....	3	4.61
Wisconsin	106	60	26	24.52	51	48.1	17	16.0	4	3.7	2	1.88	6	5.66
Marquette	74	64	53	71.62	8	10.81	7	9.4	3	4.0	1	1.3	2	2.69
	5950		1363		1830		1331		983		196		247	
				22.89		30.75		22.35		16.52				4.15
								2510		42.18				
								2757		46.3				

*One student graduated from a Hungarian Royal High School and one year at a Junior College, but had credits for: physics, 3 years: chemistry, 2 years: biology, 2 years.

The 196 students presenting "Other degrees" gave the following:

B.S. & A.M.....1	A.B. & A.M.....21	A.B. & B.S.....6	A.A. 10
B.S. & M.S.....5	A.B. & M.S.....4	B.A., B.S., M.A. 1	Ph.D. 4
B.S. & B. Pg.....1	B.S. & C.E.....1	Ph.B. & M.S.....1	Ph.B. 42
L.I.....1	B.Ed.....4	Litt.B.....2	L.I., Ph. Ch. & B.S.....1
Ph.C. & B.S.....4	Ph.G. 51	Ph.G. & B.S.....3	Ph.C. 3
Ph.G., Ph.C., Ph.M. & B.S.....1		Ph.B. & Ph.C.....1	A.B. & Ph.G. 1
D.D.S. 6	D.M.D. 2	A.B. & D.V.M....1	D.V.M. 4
D.V.M. & M.S...1	D.V.S. 1	D.V.M., M.S. & Ph.D. 1	
B.C.S. 1	B.B.A. & B.N. 1	D.Osteo. 1	B.P.E. 2
B.S., J.S. & J.S.D.....1		G.N. 1	E.M. 1
B.Th. & M.Th. 1		B.S. & P.C.N.....1	P.C.N. 1

Of the two schools requiring a degree for admission, one school has 48.8 per cent A.B., 47.7 per cent B.S. and 3.33 per cent with other degrees. The other school has 68 per cent A.B., 27.7 per cent B.S. and 4.1 per cent other degrees. In both schools the A.B. is in the majority. Do these figures have any bearing on premedical education?

The study of these credentials was made possible through the courtesy of the Council on Medical Education and Hospitals of the American Medical Association by permitting the use of the blanks which the Council has been collecting for many years.

Tentative Program for 1929 Meeting

The following papers will be read at the fortieth annual meeting to be held in New York City, November 7, 8 and 9, 1929, at the Medical Center of Columbia University:

The Statistical Method as an Adjunct to the Teaching of Medicine in the Clinic.—JOHN WYCOFF, Secretary University and Bellevue Hospital Medical College.

Postmortem Examinations in Graduate Teaching.—H. A. ROBERTSON, Mayo Foundation University of Minnesota.

The Scholastic Achievements of Multiple Applicants.—A. M. MILLER, Dean Long Island College Hospital; A. S. BEGG, Dean Boston University School of Medicine, and A. M. SCHWITALLA, Dean St. Louis University School of Medicine.

Use of Strip Photo Film as an Aid in Teaching.—F. H. KRUSEN, Associate Dean Temple University School of Medicine.

Cooperation Between the College and the Medical School.—HERBERT E. HAWKES, Dean Columbia College.

Medical Extension Teaching.—C. R. BARDEEN, Dean Medical School University of Wisconsin.

Teaching on Treatment of Fractures.—WILLIAM DARRACH, Dean College of Physicians and Surgeons, Columbia University.

The Association of American Medical Colleges and the Federation of State Medical Boards.—HAROLD RYPINS, Secretary Board of Medical Examiners University of the State of New York.

Scholastic Aptitude Test for Medical Students.—F. A. MOSS, George Washington University.

Premedical Requirements in Chemistry.—HANS T. CLARKE, Columbia University.

Modern Foreign Language Preparation for Medical School Use.—H. B. WILLIAMS, Columbia University.

Courses in Graduate Instruction in Medicine.—J. C. METCALFE, University of Virginia.

Four Report on Study of Applicants for Matriculation in Medical Schools. —BURTON D. MYERS, Indiana University.

(Title not Announced).—WILLIAM G. SMEATON, University of Michigan.

The titles of papers and names of contributors who will take part in the program of the joint session with the Association of American Universities will be published in the final program.

The president, Dr. Myers, will deliver an address at the banquet on Thursday evening, and Dr. Nicholas Murray Butler, president of Columbia University, will also speak on that occasion.

Interesting reports, probably calling for much discussion, will be made by the Committee on Medical Education and Pedagogics, Dr. H. G. Weiskotten, chairman; Committee on Intern Relations, Dr. Irving S. Cutter, chairman, and the Committee on Nursing Schools, Dr. C. P. Emerson, chairman.

Final program and details will be published later.

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DR. FRED C. ZAPFFE, Editor, 25 East Washington Street, Chicago

Change in Date of Annual Meeting

The Association of American Universities has graciously agreed to meet with this Association in a joint session during the annual meeting to be held in New York City. In order to take advantage of this opportunity, it was necessary to change the time of meeting from October 28, 29 and 30 to November 7, 8 and 9. Judging by letters received from a number of deans, the change is most welcome.

The new date brings the meeting at the end of the week instead of at the beginning as heretofore; that is, Thursday, Friday and Saturday. The joint session will be held on the afternoon of the second day, Friday, November 8. The place of meeting has not been definitely decided, but it is quite probable that it will be in the Medical Center of Columbia University where all the meetings will be held.

The program for this session is being arranged and promises to be a most interesting one. Graduate medical education will be one of the topics to be discussed. At any rate, this meeting will give opportunity for free exchange of views and opinions between university and medical school administrators on a common ground, that of education, without distraction by associated interests. It is a wonderful chance to "talk things out" calmly and dispassionately and, possibly, to reach agreement on hitherto disputable matters resulting from a lack of understanding of the other fellow's job and his aims and objects as well as the difficulties which he encounters daily. It is hoped that this meeting will be attended by large numbers and that everybody will feel free to talk.

Results of State Board Examinations

The Journal of the American Medical Association of April 27, 1929, publishes the results of the annual survey of the results of the examinations for licensure held by the various state examining boards during 1928. These data are interesting mainly in that they show again that the number of failures are decreasing each year. Whether this is the result of an easing up on the part of the examiners or better training of the applicants is a debatable question. However, the fact remains that there is a change in the figures.

Comparison of data on the various medical schools for the purpose of arriving at an estimate of the excellency of the preparation of their graduates is wholly a fallacious task, inasmuch as ability to pass an examination is by no means indicative of the applicant's ability to practice medicine, nor even a measure of the adequacy of his preparation. It is a well known fact that the desire to pass the licensure examination often supersedes every other ambition. It is the first step toward entering on the practice of medicine, and sometimes it completely clouds the mental attitude of the students and stultifies his efforts to gain knowledge which will make him a good practitioner. He merely becomes a passer of examinations.

Analysis of the data published shows that of the sixty-four colleges in membership in this Association whose graduates for 1928 presented themselves for examination for licensure, 37 did not have any failures; 14 had one failure each; 5 had two failures each; 7 had three failures each, and one school had

5 failures, a total of 56 failures. The 37 schools without failures had 1,611 graduates; the 27 schools with one or more failures had 1,390 graduates. The percentage of failure for these 1,390 graduates was, therefore, 4. For the whole number of 3,001 graduates it was 2. True, these percentages are not as low as they were for 1927, but the actual figures or numbers show a better result than they did last year.

Intern Training

The Journal of the American Medical Association recently published (March 30, 1929) the annual hospital statistics. Of special interest to medical educators are the data concerning intern training. Six hundred and thirteen hospitals have been approved for such training. The interns in these hospitals number 5,148. Three hundred and sixteen hospitals are affiliated with medical colleges for the teaching of medical students. Five hundred and five hospitals reported that the interns are being paid: Up to $25 per month, 218 hospitals; from $26 to $50 per month, 152 hospitals; from $51 to $100 per month, 15 hospitals; over $100 per month, 21 hospitals; salary and bonus, 26 hospitals; bonus only, 4 hospitals.

It is asserted that, because of the improved quality of the modern medical graduate, the hospitals readily take all the interns that are available, and would gladly use about two thousand more. The attending physicians in hospitals that are approved for interns are making the intern year a real fifth year in medicine, an intensive clinical course in all departments of medicine and surgery. Through the bedside instruction, laboratory aids, staff conferences, the performing of autopsies, and intensive personal instruction, the intern makes more advancement in his hospital year than would be possible for him in five years of independent practice.

Perhaps medical educators are not quite ready to accept this assertion; in fact, the opinion is current that one objection to the adoption by medical schools of the intern year as a requisite to graduation is the fact that in the case of most hospitals there is not any attempt being made to make this year an educational year in the same sense as the years of residence in the medical school. Elsewhere in this issue is published an abstract of a paper read by Dr. Hugh Cabot, dean of the University of Michigan Medical School, at the recent annual congress before the Federation of State Medical Boards meeting which reviews the situation well and stresses this one point.

Room Reservations

In order that those attending the annual meeting will not have any difficulty in securing desired room reservations, the management of the Hotel Pennsylvania has requested that all communications for that purpose be addressed to the "Sales Manager." This will ensure immediate and personal attention. The rates are the same as for all Statler hotels, the Hotel Pennsylvania being one of these. It is connected with the Pennsylvania depot by underground tunnel and is only a short distance from the Grand Central Station.

Make your reservations early.

John A. Witherspoon

We regret to announce the passing of another of the ex-presidents of this Association, John A. Witherspoon, of Nashville, Tennessee. Dr. Witherspoon was actively engaged in teaching for nearly all of his professional life and intensely interested in medical education. At the time of his death he was a professor of clinical medicine in the School of Medicine of Vanderbilt University. He was for a number of years a member of the Executive Council of this Association and later was elected president. His kindly and loveable personality endeared him to all who had contact with him, and his sagaciousness, tempered by the milk of human kindness, made him a valued member of the Council. He was always ready to give "the benefit of the doubt" in cases coming up for adjudication, and mixed justice freely with fairness. He did not want to feel that any one deliberately did wrong, and was always

ready to lead the erring one back to the right road and help to keep him on it.

His many friends will mourn his passing and feel the sense of a great loss for a long time. It was good to have known him.

Graduate Fellowships

It was planned to publish a second part for this issue containing a list of fellowships and scholarships for graduates in medicine, and a complete list of and information regarding all philanthropic foundations that have any medical plans or contacts. However, these lists could not be completed in time for this issue, hence publication will be made as Part 2 of the October issue.

Our Advertisers

Every once in a while it becomes necessary to call attention to the advertisers. In the first place, none but bona fide advertisements are accepted; therefore, any ad appearing in this publication presents something worth while and is deserving of receiving some attention, if only the few moments needed to read the ad. Second, the advertiser is much in the same position as one who broadcasts over the radio: he cannot tell what impression he has made on his audience unless he receives a visible expression of appreciation in the form of a post card, letter, telephone call or telegram. These little courtesies are always greatly appreciated, more than enough to repay the sender for the small expendiure of time and money incurred.

Why not treat the advertiser in the same way? If you read his ad in this JOURNAL, why not drop his a line and ask him for further description or details of his product; or, ask him for his catalog. If what he has advertised has attracted your attention and aroused your interest, is it not possible that he makes many other products in which you might be interested? You can find out by looking through his catalog. Furthermore, he may catalog something that you have been looking for for a long time.

Incidentally, and that is a matter of supreme importance to this publication, if the advertiser has proof that his ad has been noticed, he will not feel that he should discontinue his contract. Instead of feeling that it is not worth while to advertise in our JOURNAL, he will be convinced that it is distinctly worth while. A German proverb: "Eine Hand waescht die Andere." That is true. Encourage the solicitor of advertising by letting his customer know that you have seen the ad in the JOURNAL. That will make a steady customer of him.

Fortieth Annual Meeting

New York

November 7, 8 *and* 9, 1929

Headquarters

Hotel Pennsylvania

College News

University of California School of Medicine

Tentative plans for the Institute of Tropical Medicine have been announced at the George W. Hooper Foundation, research center of the medical school, providing for lectures in the summer of 1930. The new organization will provide the only western center for the treatment and study of tropical diseases and for research in general problems of health and food preservation in the tropics or locally as a result of conditions having their origin in the tropics. Research, public education and treatment of individuals suffering from tropical diseases are given as the three phases of work to be carried on. Under research are included the practical problems of health and disease in tropical countries; the problems arising from shipping between the United States and tropical countries, both as regards cargo and the personnel of the ships, passengers and crew, and the problems presented by epidemics of tropical diseases such as meningitis, cholera and yellow fever. Under public education are listed four lines of endeavor. First, regular courses in tropical medicine for graduate physicians from every part of the world. Second, courses in tropical public health service for nurses going to tropical countries or on ships touching at tropical ports. Third, courses on tropical medicine for students in the University Medical School, as desired. Fourth, public instruction in tropical hygiene and public health through popular lectures and a course for prospective travelers, merchants, soldiers and others intending to visit tropical countries. Under treatment of individuals is included all such treatment as can not well be taken care of elsewhere.

In recognition of the research work being done in the department of biochemistry of the University of California, the Chemical Foundation has granted to Dr. C. L. A. Schmidt, chairman of the department, a fund of $2,500 a year for the next five years to support his studies of proteins and amino acids. In addition, the Board of National Research Fellowships in the Biological Sciences has awarded two of the three fellowships allotted to biochemists to members of the staff of the university department of biochemistry, Dr. D. M. Greenberg and Norval Burk.

New York Hospital-Cornell Medical College Association

The New York Hospital and Lying-In Hospital have agreed to merge, the union to be effected in the near future. The merged hospitals, according to the announcement, will become an integral part of the project for the care of the sick, for teaching and research. By agreement with the Lying-In Hospital, about $8,000,000 in resources is made available for the association. This money will be used for the building and the work of a maternity hospital between Sixty-eighth Street and Seventieth Street, overlooking the East River. This will constitute an institute devoted to the care of women and infants, teaching and research. Mr. J. P. Morgan and the Laura Spelman Rockefeller Memorial, through Mr. John D. Rockefeller, Jr., the society announced, have given $2,000,000 each toward the new maternity hospital. George F. Baker and George F. Baker, Jr., gave $1,000,000 each. The remaining $2,000,000 available under the agreement will come from the present assets of Lying-In Hospital.

New York University and Bellevue Hospital Medical College

Endowment of research in the Cardiac Clinic of New York University Medical School at Bellevue Hospital with $250,000 is the object of a campaign now under way.

During the past year a total of $122,000 has been received by the institution for research as follows: The Lucius N.

Littauer Fund of $25,000 for research in the cause and cure of pneumonia, an anonymous fund of $50,000, of which $38,000 is devoted to the study of rheumatism and heart disease and $12,000 to pneumonia; $10,000 annually from Richard T. Crane, Jr., of Chicago, for research in hay fever, asthma and related diseases; $13,000 annually for three years from the Jeremiah Milbank Foundation for the study of infantile paralysis, and $6,000 from the Commonwealth Fund.

During the past two months the Centennial Fund of New York University received $118,260.58 in bequests and gifts, a total of $34,374.05 being for medical research. One of $10,000 came from Lucius N. Littauer for prevention and cure of pneumonia, in charge of Dr. William H. Park. Others included the following: Two donors, for the Third Medical Division Fund, Medical College, $175. Dr. Daniel B. Kirby, for research in the Department of Ophthalmology, Medical College, $100. Professor George David Stewart, for the Hermann M. Biggs Memorial Fund, Medical College, $250. Anonymous donors, through Dean Samuel A. Brown, for the Egbert LeFevre Memorial Library Fund, Medical College, $3,000. Anonymous donor, for the Bacteriological Laboratory Fund for Rheumatism, under the direction of Dr. William H. Park, Medical College, $2,833.34. International Committee for the Study of Infantile Paralysis Fund, for expenses in the study of infantile paralysis in cooperation with the committee, $2,500. Anonymous donor, for the Oxygen Research Fund, under the direction of Dr. William H. Park, Dr. Jesse G. M. Bullowa and Dr. Milton B. Rosenbluth, Medical College, $2,500. Mrs. Eugene Reynal, for the Cardiac Clinic Fund, Medical College, $1,000. Anonymous donor, for the Bacteriological Laboratory Fund for Rheumatism, under the direction of Dr. William H. Park, Medical College, $833.34. Anonymous donor, for the Third Medical Division Fund for Rheumatic Fever, under the direction of Dr. John Wyckoff, Medical College, $5,333.32. Dr. Rowland G. Freeman, for research work, preferably in pediatrics, under the direction of Dr. William H. Park, Medical College, $500. Commonwealth Fund, payment on account of appropriation for research to be conducted by Dr. William H. Park, on value of anti-pneumonia serum treatment for bronchial pneumonia, Medical College, $2,000.

Included in the list are the activities of the Harriman Research Fund, which at the present time are devoted to research in pneumonia under the direction of Dr. William H. Park, professor of bacteriology and hygiene in the medical college and director of the Bureau of Laboratories, New York City Department of Health. The Harriman Research Fund, established by Mrs. Mary W. Harriman, has recently been allied with the university. Dr. William G. Lyle, Dr. Park and Dr. William J. Maloney are trustees of the laboratory, which is under the direction of Dr. K. George Falk. The staff of this laboratory, under Dr. Park's supervision, will devote its entire time to the perfecting and standardizing of the method of refining the serum for the prevention of pneumonia.

University of Wisconsin

The University of Wisconsin Medical School is now using to excellent advantage the Service Memorial Institute Building for the Medical Sciences, which was opened at the beginning of the present scholastic year. This building was erected as a memorial to those who served in the World War and was designed to foster medical science in Wisconsin. It cost over $800,000 equipped, and occupies a site near the Wisconsin General Hospital, with which it has corridor connections. It houses physiology, physiological chemistry, bacteriology, pathology, pharmacology, hygiene, radiology, the medical school library, and shop. It is proving to be a helpful addition to the resources of the school for medical teaching and research.

Tufts College Medical School

A change, coming into effect in 1929-1930, is to be made in the schedule of fourth-year students, by which they will have only one afternoon of lectures a

week, the remainder of their time being spent in hospitals as clinical clerks and dressers. The Boston Dispensary has entered into an agreement with Tufts Medical School, by which Tufts is to supply the staff of the Dispensary. The Boston Floating Hospital is to use its funds to erect a fifty-bed children's building, which will be under the management of the Dispensary. Dr. Edward Place, director of the contagious department of the Boston City Hospital, has been appointed professor of contagious diseases. Dr. Joseph H. Pratt, director of the medical post graduate clinic at the Boston Dispensary, who has been evolving a new school of post graduate instruction, has been elected professor of clinical medicine.

University of Minnesota Medical School

Dr. Hilding Berglund, professor of medicine, who has been spending the present academic year at the Peking Union Medical School, expects to be back in Minneapolis in June.

The Medical School has adopted the suggestion made by the University of Kansas Medical School and has arranged to send its senior students in groups for two weeks periods at the state insane hospitals. This is additional to the two weeks residence in obstetrics at the Ancker Hospital, St. Paul, and two weeks residence at the Glen Lake Sanatorium near Minneapolis, which were previously in operation. In all cases the students live at the designated institution for the period of two weeks in groups of about eight students.

In the period from July 15 to August 15, the University of Minnesota will carry on a Symposium in bio-chemistry and physiology. The meeting of the International Physiological Society which is to be held in Boston beginning August 19th is made the occasion for bringing a number of distinguished foreigners to Minneapolis for this Symposium. A total of six have been invited and acceptances have been received from Prof. M. von Frey, Wurzburg, Germany, Prof. G. V. von Anrep, Cambridge, England, and Prof. T. Thunberg, Lund, Sweden. Prof. Otto Meyerhof of Berlin has agreed to come if his health permits. Other invitations are pending. The Symposium will consist of regular lectures, seminars and laboratory visits. Each visitor will be furnished an office where he can consult with students who are interested in his line of work.

Stanford University School of Medicine

Promotions to associate professorship: Lloyd B. Dickey, pediatrics; William Dock, medicine; Maurice L. Tainter, pharmacology. To assistant professorship: John Kent Lewis, medicine. To instructorship: Edward M. Butt, pathology; Nelson J. Howard, surgery; Andrew B. Stockton, therapeutics. To associate clinical professorship: John J. Kingston, pediatrics; Mary H. Layman, pediatrics. To assistant clinical professorship: Otto Barkan, surgery (ophthalmology); Merrill C. Mensor, surgery (orthopedics); James C. Parrott, pediatrics. To clinical instructorship: Roger B. McKenzie, medicine; Edmund J. Morrissey, surgery.

The president and trustees of Stanford University have approved a full-time instructorship in therapeutics in the school of medicine. The first incumbent will be Dr. Andrew Benton Stockton, who will begin his duties in September. The position and the teaching of therapeutics will be in the department of pharmacology; the subjects and materials of research will be clinical under the joint direction of the executives of the departments of medicine and pharmacology. The instruction, which is given in the third year, will be supplemented as in the past by electives in the fourth year, consisting of bedside conferences on individual cases at the San Francisco Hospital under Dr. R. V. A. Lee, assistant clinical professor of therapeutics, and of lectures and demonstrations on selected topics in institutional therapeutics by Dr. Frederick Proescher, director of laboratories, Agnew State Hospital, and recently appointed lecturer in therapeutics. By combining instruction with effective research in

clinical therapeutics it is hoped that the development of the subject may proceed along substantial lines.

Western Reserve University School of Medicine

Dr. Victor Caryl Myers, professor of biochemistry, was elected secretary of the faculty to fill the vacancy left by the expiration of the term of Dr. Roger G. Perkins.

Dr. Robert E. Vinson is chairman of the medical faculty, and Dean Torald Sollman is vice-chairman.

Dr. Edward Harvey Cushing was elected a member of the board of Case library.

Dr. Joseph M. Hagman has been appointed associate professor of medicine.

Medical College of Virginia

Dr. Albert Compton Brooders, pathologist to the Mayo Clinic, received the honorary degree of doctor of science at the commencement held May 28. Doctor Brooders is an alumnus of the School of Medicine of the Medical College of Virginia.

University of Pennsylvania Graduate School of Medicine

The newly built and equipped Chevalier Jackson Bronchoscopic Clinic for the teaching of peroral endoscopy was opened recently. The non-clinical portion of the teaching is done in the anatomic and research surgical laboratories of the University.

Such teaching and related research constitutes a portion of the long courses, one to three years' duration, provided by the Graduate School of Medicine of the University of Pennsylvania, for physicians who pursue studies in the whole field of otolaryngology.

A series of two weeks' intensive studies designed for otolaryngologists and surgeons have also been arranged. The courses include about six hours daily of intensive study, consisting of lectures, lantern and drawing demonstrations; endoscopic clinics; practice, in the technic, upon cadavers and dogs. Topics discussed are: uses, dangers, indications and contraindications in peroral endoscopy; diagnosis of foreign bodies in the air and food passages; the solution of the mechanical problems offered by various types of foreign bodies; bronchoscopy in diseases of the lungs; and bronchoscopy as an aid to the internist and the thoracic surgeon.

The courses are limited to twelve registrants. They are intended for qualified surgeons or otolaryngologists who desire an intimate view of this very important subject. Those who take this course are required to provide themselves with certain books and with certain instruments for individual practice. Physicians whose visual acuity cannot be brought up to 20/20 by refractive correction are visually unfitted for peroral endoscopy. The fee is $250, of which $25 is to be paid at registration and $225 at matriculation.

The new $1,000,000 anatomy and physiological chemistry laboratory was dedicated May 16. The new laboratory is a Y-shaped building of brick and stone, connected with the old laboratory, in which are the administrative offices of the schools of medicine. Funds for its construction were provided by the Rockefeller Foundation and the General Education Board, each of which gave $250,000, and by the university, which raised a like amount. The second floor has forty-five rooms, all used by the department of anatomy. The two upper floors contain research rooms and student laboratories.

University of Oregon Medical School

The University of Oregon Medical Center at Portland, Oregon, is to be enlarged by a new out-patient clinic building made possible by a gift from the General Education Board of the Rockefeller Foundation in the sum of $400,000. The new building is to be erected on the campus of the Medical School on Marquam Hill, Portland, Oregon.

Recent faculty appointments and changes: Dr. Clarence J. McCusker, appointed clinical professor of obstetrics

and head of the department. Dr. Raymond E. Watkins, appointed clinical professor of gynecology and head of the department. Dr. Frederic A. Kiehle, appointed professor of ophthalmology and head of the department. Dr. Ralph A. Fenton, appointed professor of otolaryngology and head of the department. Dr. John F. Dickson, appointed emeritus professor of ophthalmology. Dr. Lyle B. Kingery, appointed clinical professor of dermatology and head of the department. Dr. James C. Elliott King, appointed emeritus professor of dermatology. Dr. Wilmot C. Foster, assistant professor of anatomy, resigned.

Changes in faculty: Resignation of Dr. Robert L. Benson, professor of pathology and head of the department, accepted. Dr. Frank R. Menne, professor of pathology, appointed head of the department. Dr. Edwin E. Osgood promoted to associate professor of medicine. Dr. Wesley E. Gatewood promoted to assistant clinical professor of medicine. Miss Grace Phelps, superintendent of the Doernbecher Memorial Hospital for Children, appointed director of nursing of the University of Oregon Medical School.

In accordance with the law enacted during the present session of the legislature, the library of the University of Oregon Medical School will receive 40 per cent of the funds paid to the state board of medical examiners by physicians as annual registration fees. This money is to be used to maintain and build up the circulating medical library for the use of practitioners in the state.

University of Illinois College of Medicine

Faculty appointments: Hallard Beard, assistant professor of ophthalmology; R. J. E. Oden, instructor in anatomy; H. H. Rosenbloom, Oscar Richter and Miss Bertha Kaplan, instructors in medicine; Gustave Weinfeld, associate, and M. L. Dale and L. J. Halpern instructors in pediatrics; J. A. C. Busby and C. A. Bacon, instructors in obstetrics and gynecology; Leo E. Amtman, William Boikan, M. G. Bohrod, M. L. Cohen, R. A. Lifvendahl and A. J. Nedzel, instructors in pathology and bacteriology; and M. G. Henry and G. H. Kistler, instructors in physiology.

The Gehrmann Lectures for 1929 were delivered April 1, 2 and 3, by Dr. William H. Park, Director of the Bureau of Laboratories, Department of Health, New York City, his subjects being, "The Use of Diphtheria Antitoxin and Toxin in Treatment and Immunization," "The Use of Antipneumococcic Serum in the Treatment of Pneumonia, and the Significance of Types of Pneumococci," and "Active Immunization in Animals and Human Beings against Tuberculosis."

Mead Johnson and Company, of Evansville, Indiana, manufacturers of infant diet materials, have donated $5,300 for a clinical study of irradiated ergosterol, under the direction of Dr. Julius H. Hess.

April 19, the Spring Assembly of the Interstate Post-Graduate Medical Association of North America was held at the College of Medicine. Many papers and clinics were given in all the departments of the curriculum.

On the same date, the Public Health Committee of the Senate of the State of Illinois held a hearing in the Council Rooms in the City Hall, Chicago, concerning the Anti-vivisection Bill introduced by Senator Courtney. This Bill, in brief, would prevent all experimental work of every kind on animals. Appearing against it were: Dr. Frank Billings, Dr. Anton J. Carlson, Dr. Andy Hall, of the State Board of Health, Dr. Arnold Kegel, Commissioner of Health, Chicago, Dean Eugene Davenport, of the University of Illinois, and Dr. J. R. Neal, of Springfield.

Under the auspices of the Medico-Historical Lectures, Dr. Ludvig Hektoen delivered a lecture on April 17, entitled, "Pasteur," and Dr. E. A. Boyden, on May 1, a lecture entitled, "The Royal Society and the Early Microscopists."

Dr. Julius H. Hess was nominated by the National Research Council as a Guest Delegate to the Conference on Research in Child Development, Toronto, May 2-4, following which he attended a conference in Washington as a Special Consultant to the Department of Labor.

Under the auspices of the Alpha Omega

Alpha Society, Dr. F. L. Rector, of the Chicago Medical Society, lectured May 8 on "Social Aspects of Medicine," and Dr. R. H. Jaffe, May 15, "Theodor Billroth, Commemorating the Hundredth Anniversary of his Birth."

The Alumni of the College of Medicine held a clinical program at the College on June 5, 6 and 7, in honor of the former members of the Faculty. The program was contributed to by the latter, prominent Alumni, and the present faculty, and consisted of operative, dry and diagnostic clinics, besides short papers in all the specialties in medicine. In this connection, the Senior Class was entertained both by the Alumni and the Faculty of the College.

University of Chicago

The Julius Rosenwald Fund will contribute $50,000 a year for five years to support the University of Chicago clinics on condition that $100,000 a year be raised from other sources; Max Epstein and Albert D. Lasker each pledged $25,000 a year for five years. John Hertz has given the university $75,000 for a study of disorders of the pituitary gland and related conditions. The Quaker Oats Company has granted $4,500 for an investigation to the nutritive value of unirradiated and irradiated farina and the effect of ultraviolet rays on the various types of proteins; it has granted $3,600 for a study of certain properties of cereals treated with ultraviolet rays. The following contributions have been made to the library fund of the Billings Hospital: Dr. Frank Billings and Mr. C. K. G. Billings, Mr. Charles Ruddock and the Knapp Fund each $1,000, and Dr. Lester E. Frankenthal, $257.24.

Harriet F. Holmes has been appointed research associate in the department of pathology. Milton T. Hanke has been promoted to associate professor of biochemistry in the department of pathology and Dr. William Bloom has been promoted to assistant professor in the department of anatomy.

An anonymous donation of $250,000 has been received to establish the Charles Henry Markham Fund, the income from which will be used to support teaching, research and clinical work in the departments of surgery and medicine.

New York Post-Graduate Medical School and Hospital

Dr. George S. Amsden has been appointed professor of psychiatry and director of the Max G. Schlapp Memorial Mental Hygiene Clinic, which will be extended for the treatment of mental disorders and research. Dr. C. Floyd Haviland has been appointed consultant in psychiatry.

Columbia University

Edward S. Harkness has given $2,000,000 for the erection of a residence hall near the new medical center for medical students and junior unmarried hospital officers.

Friends of William J. Gies have created the William J. Gies Fellowship in Biological Chemistry, the income from which will be $1,500 per year. Incumbents may devote their entire time to a biochemical research of their choice.

New appointments: John M. Wheeler, professor of ophthalmology; Hans T. Clarke, professor of biological chemistry; Dudley J. Morton, associate professor of anatomy; Goodwin L. Foster, associate professor of biological chemistry; Michael Heidelberger, associate professor of medicine; Wilfred M. Copenhaver and Earl T. Engle, assistant professors of anatomy.

Promotions: George C. Andrews and A. Benson Cannon, associate professors of dermatology; Frederick B. Humphreys, associate professor of bacteriology; Arthur Purdy Stout, associate professor of surgery; Frederick T. van Beuren, Jr., associate professor of clinical surgery; George F. Cahill, assistant professor of urology; F. Elmer Johnson, assistant clinical professor of diseases of children; Richard Warner Linton, assistant professor of bacteriology; Howard H. Mason, Stafford McLean, Guiseppe Previtali and Martha Wollstein, assistant clinical professors of diseases of children; Maurice Nathaniel Richter, assistant professor of pathology; Frank L. Meleney and Clay Ray Murray,

assistant professors of surgery; Theodore F. Zucker, assistant professor of pathology; Robert F. Loeb, Gerald S. Shibley and Randolph West, assistant professors of medicine.

Dr. Arnold Knapp, professor of ophthalmology, has resigned.

New York University

Promotions: Samuel Feigin, assistant clinical professor of psychiatry; James J. Loughran, lecturer on psychiatry; Theodore J. Curphey, assistant professor of pathology; David Barrows, lecturer on gynecology; Thomas E. Lavell and William Higgins, lecturer on gynecology; Francis W. Sovak, assistant clinical professor of gynecology; Peter Yudkowsky, lecturer on laryngology.

Nominations: Arthur Krida, professor of orthopedic surgery; Mihran Parounagian, clinical professor of dermatology and syphilology; Thomas H. Johnson, lecturer on ophthalmology.

Resignation: Sylvester R. Leahy, clinical professor of psychiatry.

Died: John Mandel, professor of chemistry.

Extensive research into the cause of rheumatism is also being carried on in the university medical laboratories, as well as researches into the causes of hay fever, asthma and other members of the allergic group of diseases. The research work in infantile paralysis is being carried on by the gift from the Milbank Foundation.

George F. Baker has given $1,000,000 in honor of Dr. George David Stewart, professor of surgery. This fund will be named in honor of Dr. Stewart, and will be used to promote the teaching of surgery at the university. It is one of the first steps in a plan of development of the college of medicine and dentistry, which proposes to construct a laboratories building in which the activities of the Harriman Fund will be carried on as well as research and undergraduate instruction; a new administrative building; a private pavilion; a dental college, and a public health center in cooperation with Bellevue Hospital.

University of Colorado School of Medicine

A course in neuropsychiatry for graduate physicians will be given during July, embracing clinical psychiatry, the psychopathology of childhood, mental hygiene, clinics, lectures, and ward and outpatient work. The instructors will be from the staff of the Colorado Psychopathic Hospital, and heads of other departments of the medical school.

An anonymous gift of $1,000 to establish a lectureship on public health and preventive medicine, has been received. The first series of lectures was given by Dr. George C. Ruhland, Commissioner of Health of Syracuse, N. Y., April 16, 17 and 18. Dr. Ruhland lectured on: "Organization of the City Health Department," "Tuberculosis Control," and "Organization and Conduct of Child Welfare Clinics."

Albany Medical College

An agreement has been made with the Nathan Littauer Hospital at Gloversville whereby small groups of students will visit the hospital to study cases and attend clinics. A member of the hospital staff will be appointed to the faculty of the college. The Lucius N. Littauer Foundation has made a grant of $50,000 to Albany Medical College to establish three research fellowships, two in pathology and one in physiology and research medicine, which will be named in memory of the donor's mother, Harriet Sporborg Littauer. The hospital at Gloversville was founded by Mr. Littauer in 1894 as a memorial to his father.

Indiana University

George A. Ball has given the university $10,000 for the construction of walks and drives at the Indianapolis Medical Center around the various buildings included in this group.

Duke University

Dr. Julian Deryl Hart has been appointed professor of surgery and Dr. Wiley Davis Forbus, professor of pathology, in the medical school, effective in 1930.

University of Toronto Faculty of Medicine

Dr. Clarence Leslie Starr, professor of surgery, died suddenly on the evening of Christmas Day. He was a distinguished graduate in medicine of Toronto and a member of the teaching staff for thirty years. In 1921, he became the first full-time professor of surgery.

Dr. Charles Herbert Best has been appointed to the chair of physiology to succeed J. J. R. Macleod, who left last June to become professor of physiology at the University of Aberdeen. Dr. Best is a graduate in medicine of Toronto of 1925.

A new building in which will be located the laboratories of pathology and pathological chemistry, the clinical departments of medicine, surgery and obstetrics and gynecology and the Banting and Best chair of medical research, is in course of construction on the north side of College Street, opposite the Toronto General Hospital. There are to be five stories above a basement and sub-basement.

Baylor University College of Medicine

Faculty changes: Professors—E. H. Cary, ophthalmology and otolaryngology and chairman of the department; A. I. Folsom, urology and chairman of department of surgery; C. M. Grigsby, clinical medicine; M. E. Lott, clinical surgery; Major H. F. Philips, military science and tactics; J. B. Shelmire, Jr., dermatology and syphilology; W. W. Shortal, clinical surgery; H. M. Winans, medicine and chairman of the department; T. P. Haslam, medical director of the outpatient department and director of clinics.

Associate Professors: D. L. Bettison, otolaryngology; L. C. Ellis, clinical surgery; H. A. Kemp, bacteriology; W. T. Robinson, obstetrics; Curtice Rosser, proctology.

Assistant Professors: J. S. Hodges and P. E. Luecke, clinical pediatrics; W. E. Massey, obstetrics; Tate Miller, gastroenterology; W. G. Reddick, clinical medicine.

Instructors: T. J. Calhoun, clinical dermatology and syphilology; C. B. Carter, clinical surgery; G. F. Goff, clinical gynecology; Speight Jenkins, clinical ophthalmology; D. G. Kilgore and A. A. Newsom, obstetrics; E. M. Mendenhall and W. H. Potts, Jr., clinical medicine; H. E. Smith, pathology; R. C. Smith, clinical urology; J. G. Young, clinical pediatrics.

Assistants: L. B. Duggan, M. O. Rouse and Albert Gray, clinical medicine; K. B. King, clinical urology; Lois W. Smith, clinical pediatrics.

Northwestern University Medical School

The new Passavant Hospital on the McKinlock campus was opened to the public, May 21. Patients will be received June 3. Dr. Irving S. Cutter, dean of the medical school, will be superintendent, and the staff will be members of the faculty of the school. The $2,000,000 institution will open with 200 beds, the east wing being used to house 100 nurses until a nurses' home is built. Dr. A. W. Passavant founded the Passavant Hospital in 1865. It was destroyed by fire in 1871, rebuilt in 1885, and four years ago was closed because the building was inadequate.

University of Iowa College of Medicine

The extension division conducted its second annual course for practitioners, June 4-7. The mornings were given over to ward walks by small groups and to clinics, and the afternoons in part to chest studies. The surgical section conducted bedside study, conferences and clinics. The visiting instructors were Drs. Hugh McCulloch, Washington University Medical School, St. Louis; Jay A. Myers, University of Minnesota School of Medicine; George E. Brown of the Mayo Foundation, Rochester, Minn., and Cyrus C. Sturgis, University of Michigan Medical School, Ann Arbor. The speakers will include Drs. Royal W. Dunham, Ottawa, Ill.; Carl A. Hedblom, University of Illinois College of Medicine, Chicago; Wal-

ter H. Watterson, U. S. Veterans' Bureau Hospital, Maywood, Ill.; Clinton E. Harris, Woodmen, Colo., and Joseph L. Miller, Rush Medical College, Chicago.

National Board of Medical Examiners

Publication of the Bulletin has been discontinued and the *Diplomate* has appeared to take its place. It is a nice looking periodical, a monthly full of good things for student and practitioner. The editor is to be congratulated and merits the help of all those interested in medical education and licensure.

The *Diplomate* will not be published in July and August. It contains news of medical colleges, fraternity and society activities, the attainments of distinguished students, interns and diplomates, and the activities of medical and premedical student organizations, fellowships, vacancies in positions and changes in medical practice acts. Each medical college has been asked to designate a student as news correspondent. The managing editor, Everett S. Elwood, 225 South Fifteenth Street, Philadelphia, will be assisted by a board representing organizations interested in medical education.

Wedeles Fund for Study of Heart Disease

Michael Reese Hospital announces the establishment of the Emil and Fannie Wedeles Fund for the Study of the Heart and Circulation, by Mrs. Fannie Wedeles of Chicago in memory of her husband, who died of heart disease. The studies will be clinical, laboratory and social in the hospital wards and in the outpatient cardiac clinics of the Mandel Clinic. Emphasis will be placed on the social aspects of heart disease. The work will start with an investigation of "angina;" rheumatic heart disease in children, the goiter heart and other forms will be taken up as opportunities arise. Members of the cardiovascular group of the staff of Michael Reese Hospital will direct the work. The income from the fund will vary, but for the next five years it will be $7,000 a year.

Commonwealth Fund

One project of the Commonwealth Fund is that of providing fellowships for British graduate students in American universities. There are now, according to the report for the last fiscal year, fifty-one such fellows studying at seventeen institutions in this country, and an expenditure of $198,150 was made for this purpose. The total appropriation made by the fund last year, $2,083,621,80, was to further a wide range of public health, mental hygiene, child welfare and educational activities. Eight major activities received all except about $400,000, which was distributed among forty outside institutions, hospitals and universities as grants for special purposes. The Commonwealth Fund, which for years has assisted in developing child guidance clinic work in England, will open a special service and training clinic in this field in London this spring. The fund has assisted the Institute for Child Guidance in New York, and supported the National Committee for Mental Hygiene in the organization of thirteen clinics. The demonstrations in child health work which the fund undertook at Fargo, N. D., and in Rutherford County, Tennessee, and in Athens and Clarke County, Georgia, for a period of five years have been completed, and the demonstration in Marion County, Oregon, is entering its final year. The fund expects to complete, by July 1, its program of child welfare and public health work in Austria which it took over in 1921. The Austrian authorities will continue the child health stations; this program is said to promise success beyond the hope entertained at first. Among special grants made by the fund were $117,000 for fellowships in psychiatry at the Boston Psychopathic Hospital, Henry Phipps Psychiatric Clinic, Baltimore, and the University of Colorado School of Medicine, Denver; $22,500 to the American Public Health Association for the study of public health programs in rural areas, and $7,500 to the New York Tuberculosis and Health Association for cardiac research.

Institute of Human Relations

This institute recently organized at Yale University, has selected the Judge Baker Foundation of Boston as one of its research centers, and will start work there in September under the direction of Dr. William Healy and Augusta F. Bronner, Ph.D. A unit is being organized at Yale to come to Boston to study for five years, consisting of a psychiatrist, two psychologists and a social worker. President Angell of Yale has announced that this study will be of the family factors involved in child adjustment. It will be conducted simultaneously in New Haven and Boston. In both places families of children who have come in contact with the juvenile courts will be chosen. In collecting data faculty members and graduate students in the Yale law and medical schools and other departments will assist. Physiologic, psychologic, psychiatric and social examinations will be made, as well as those dealing with the economic and community factors. One purpose will be to assist the families. The cooperation of local agencies will be requested whenever there are problems of unemployment, sickness, legal entanglements or lack of recreational opportunities. No publicity is to be given its records concerning individuals. This will be the first investigation, the announcement says, in which experts in many fields have combined in an actual thoroughgoing study of a small group of families to discover the effect of environment on the development of the child.

University of Paris

Two new chairs have recently been established: (1) phthisiology and (2) hydrology and climatotherapy. Dr. Leon Bernard will occupy the first mentioned and Dr. Piéry the second.

University of Rome

The newly created chair on the clinical aspects of tuberculosis and respiratory diseases will be occupied by Professor Eugenio Morelli.

Medical Students in France

The number of students enrolling in the medical schools of France is said to increase. The enrolments for the past six years were as follows: 1922, 1,349 students; 1923, 1,398; 1924, 1,682; 1925, 1,900; 1926, 2,211, and 1927, 2,414, which constitutes an increase of 78 per cent in five years. The population has not increased in any such proportion. It has, for twenty years, ranged around 39,000,000. In 1901, there were, for 38,500,000 inhabitants, 16,485 practicing physicians. In 1928, France with a population of 39,500,000 had 28,380 physicians, a gain of more than 70 per cent.

Loyola University School of Medicine

The Samuel A. Matthews Lectureship has been established by the Phi Beta Pi fraternity. The first Matthews lecture was given by Dr. Arthur L. Tatum, professor of pharmacology, University of Wisconsin Medical School, Madison, on "A Physiologic Interpretation of Morphine Addiction." The late Dr. Matthews was professor and head of the department of physiology, pharmacology and therapeutics at Loyola, and previously was on the faculty of the University of Chicago and of Rush Medical College.

Yale University School of Medicine

Harry Payne Bingham has placed at the disposal of the anatomy department the duplicate specimens in his collection of fishes deposited in the Peabody Museum. This series of vertebrates will permit a comparative anatomic study of the central nervous system which will have a bearing on the general knowledge of the brain and how it works. Mrs. Dudley S. Blossom, Cleveland, has subsidized a study of the structure of the brain by a grant of $5,000 a year for five years. This project sets well into the program of the Institute of Human Relations recently established at Yale, whose object is a better understanding of the factors involved in human behavior.

Howard University

President Coolidge signed a bill, March 4, appropriating $600,000 for improvements. There was included $240,000 for a chemistry building, making, with the previous appropriation for this purpose, a total of $390,000; an item of $225,000 was included in the bill for increases in salaries and for additions to the teaching force. The U. S. Bureau of Education recently recommended employment of additional teachers at Howard University in order to relieve the teaching load brought about by the abnormally large classes.

Porto Rico School of Tropical Medicine

The Bailey K. Ashford Fellowship Fund has been established to support research on problems pertaining to tropical medicine in Porto Rico. In case the funds are not used as a fellowship, the donor desires to have them used as a prize for meritorious work in tropical medicine. The fund amounts to $10,000. The committee in charge consists of Drs. J. W. Jobling, F. P. Gay, B. K. Ashford, J. Belaval and E. B. McKinley.

Plan to Lower Cost of Sickness

The Julius Rosenwald Fund of Chicago will aid the Massachusetts General Hospital, Boston, to reduce the cost of medical care to persons of moderate means. The staff of the hospital and the trustees, it is said, have agreed to set medical fees and hospital charges at rates well below those now paid in private rooms. The medical staff initiated a schedule of fees at moderate rates and asked that the hospital act as its agent to collect these fees. The service will be rendered in the Baker Memorial Building, a 300-bed section of the hospital under construction. The rates including nursing service will be from $4 to $6.50 a day. The Julius Rosenwald Fund has appropriated $150,000 to pay a part of the deficit which is expected to be incurred until the beds are fully occupied; later the Baker Memorial Building is expected to be self-supporting.

Stephen Walter Ranson Lecture

George W. Walter has endowed for the Phi Beta Pi fraternity at Northwestern University Medical School an annual lecture in honor of Dr. Stephen Walter Ranson, director of the Institute of Neurology. The first Ranson lecture will be delivered in October by Dr. Gotthelf Carl Huber, professor of anatomy at the University of Michigan Medical School, Ann Arbor. Dr. Ranson was head of the anatomy department of Northwestern University Medical School from 1911 to 1924. He then became head of the department of histology and neuroanatomy at Washington University School of Medicine, St. Louis. Last year he returned to Northwestern as head of the Institute of Neurology.

Walter C. Alvarez Lecture

At the recent annual meeting of the American Gastro-Enterological Association, Dr. Frank Smithies, Chicago, donated a fund the proceeds of which assure an income of $100 a year for the purpose of securing a guest speaker in research work annually. The lecture is to be named in honor of Dr. Walter C. Alvarez, who is associate professor of medicine, University of Minnesota Graduate School of Medicine, Rochester, and previously was assistant professor of research medicine at the University of California Medical School.

Stanford University Medical School

A contribution of $1,000 has been received to start a memorial in honor of the late Dr. Richard G. Brodrick, superintendent of Stanford University hospitals. The income will be used for clinic free beds.

Creighton University College of Medicine

The class rooms and laboratories have been enlarged to enable the school to admit twice as many students as heretofore. More than 100 freshmen can be taken care of now.

Columbia University Anatomy Expedition

Columbia University has organized an expedition to Africa to obtain specimens of gorillas for anatomic and anthropologic study. The anatomy department of the College of Physicians and Surgeons is cooperating in this enterprise with the comparative anatomy department of the American Museum of Natural History. The party sailed from New York May 29 and will proceed through the Red Sea to Dar-es-Salaam, East Africa. It will probably go on to the Kivu Plateau, the tributaries of the Congo River and the West Coast, returning early next year. The Belgian and French governments sanctioned the effort to obtain specimens of gorilla. Among others on the advisory committee are President Butler of Columbia, and Dr. William Darrach of the medical college. The party, which will be led by Henry C. Raven of the museum, will include William K. Gregory, Ph.D., professor of vertebrate paleontology at Columbia; James H. McGregor, Ph.D., professor of zoology, and Earl T. Engle, Ph.D., assistant professor of anatomy at the College of Physicians and Surgeons.

Harvard University

Among thirty-eight scholarships and fellowships awarded in April are the following pertaining to the medical school: Charles Sedgewick Minot Fellowship—Monroe D. Eaton, Jr., Stockton, Calif.; De Lamar Student Research Fellowships—Harry Beecher, Wichita, Kan.; Liddell S. Davis, Dallas, Texas, and Charles W. Steele, Chillicothe, Mo.; James Jackson Cabot Fellowships—Lewis S. Pilcher 2d, Montclair, N. J., and Champ Lyons, Mobile, Ala.; George Cheyne Shattuck Memorial Fellowship—Hugh Montgomery, Woods Hole, Mass.; John Ware Memorial Fellowship—William P. Read, Milwaukee; Charles Eliot Ware Memorial Fellowship—Earl R. Lehnherr, Sabetha, Kan.

Cornell University

A bequest of $25,000 for research in cancer was left by the late Mrs. Mary L. W. Peters.

St. Louis University School of Medicine

The dean announces the establishment of a full department of radiology with Dr. Leroy Sante as director, and the division of the anatomy department into a section of micro-anatomy in charge of Dr. Albert Kuntz, and a section of gross anatomy in charge of Dr. Daniel M. Schoemacker. Dr. William D. Collier has been made director of the department of pathology and Dr. William E. Sauer, director of the department of otolaryngology. Drs. Sante and Collier have been promoted to full professorships as have also Drs. William P. Glennon and Harvey S. McKay in the department of surgery.

Other appointments: Joseph L. Gross, assistant in anatomy; Wesley W. Hanford, assistant in gynecology and obstetrics. Senior instructors in medicine: Rudolph V. Powell, Hyman I. Spector, Oswald P. Falk, Alphonse McMahon and Eugene Lee Shrader. Instructors: Harry G. Bristow, August A. Werner and James H. Cummings. Joseph M. Keller, associate professor of ophthalmology; Maurice L. Greene and Charles J. Gissy, instructors, and Theodore E. Schindewolf and Albert Hooss, assistants. Hugo Reim, associate professor of otolaryngology, and Paul F. Kistner, senior instructor; John T. Brundage, instructor in pharmacology; Joseph C. Peden, Edward H. Kessler, Paul F. Titterington, Lex G. McCutcheon, Edgar W. Spinzig, instructors in radiology; John R. Roberts, senior instructor in pathology. Forest H. Staley, Walter E.

Hennerich, Herman Maas, James F. Clancy and V. Siegel, instructors in surgery; C. J. Vollmar and Warren G. Marston, assistants in surgery. Benjamin F. May and Joseph E. Glenn, instructors in urology.

Dean Schwitalla also announces the creation of the Wolfort Scholarship to help a needy student of superior excellence not only in his undergraduate medical career but also in pursuit of a specialty for two additional years either in this university or in another. The donors were Mr. Sigmund and Miss Clara Wolfort in memory of their parents.

Auguste Swaen Institute

The death of M. Auguste Swaen, emeritus professor and former rector of the University of Liége, and a member of the Royal Academy of Medicine of Belgium, is announced. For half a century he gave instruction in anatomy and histology at the Faculté de médecine de Liége, which he elucidated in the same manner as Van Beneden, Spring, Frédéricq and Masius. The remarkable collections brought together as the result of his initiative and in accordance with his directions furnish tangible evidence of his activity. The University of Liége will long preserve the memory of this great scientist and teacher. In his honor, the institute of anatomy has been rechristened the Auguste Swaen Institute.

Australian Institute of Anatomy

Plans have been prepared for the Australian Institute of Anatomy, at Canberra, the erection of which is estimated to cost £100,000. The buildings will cover an area of 44,450 square feet and will be erected on a site of 8 acres. Dr. Colin Mackenzie has been appointed director of the institute. This appointment has been universally approved. Associated with the institute will be a reservation of 80 acres occupying a peninsula of the Molongolo River, where members of the unique Australian fauna will be studied in their natural state.

Dr. Colin Mackenzie has donated his complete anatomic museum, consisting of hundreds of macroscopic specimens and thousands of microscopic preparations. Other notable gifts include the Horne-Bowle collection of aboriginal stone implements, the Murray Black collections, and valuable specimens from Messrs. Otway Falkiner and E. Hill. Mr. Harry Burrell of Sydney has presented to the institute his unrivaled collection of specimens dealing with the life history of the platypus. The present value of the collections is estimated at £100,000, and, at the present rate of accessions, in a few years, they may be worth £250,000.

Facilities for study will be offered not only to research workers in this country but to those from oversea. The institute will afford exceptional opportunities for studying human embryology from the functional point of view. Already, considerable work of great practical value has been done with regard to uterine support, to the anatomic relationships of the ureter and genital ducts, and to the comparative anatomy of the mandible, the central nervous system, the colon, the greater omentum, the lesser sac and the vermiform appendix. The marsupials offer an excellent field for the study of the muscular epochs, and the postural changes resulting.

Medical Education in Australia

That the premedical general cultural education of medical students is unsatisfactory, that the selection of medical students, involving an entrance examination prior to commencing the medical course is essential, and that there is grave danger of immaturity as a result of medical education under present conditions, were the main criticisms of medical education in Australia made by Prof. R. J. A. Berry, dean of the faculty of medicine at the University of Melbourne, in a report submitted to the premier of Victoria. Professor Berry, in the course of a recent tour of America, England and Europe, was more impressed with the American methods of education than he

was with that of the English. "Medical administration, both in the United States and in Canada," he said, "commands one's whole-hearted admiration, and I regard it as the finest I have ever seen or studied anywhere."

Professor Berry's views have received considerable endorsement by leading members of the medical profession in Australia.

The minister of health for Victoria (Dr. Argyle) tends to be opposed to Professor Berry's view that the standard of entrance for the medical course is too low. The present standard is that of matriculation.

Professor Berry finds fault with the administration of the university council, a nonmedical body. He criticizes the reviewing of proposals of authorities on medical education by a lay board, and asks for increased powers of spending the money allotted to the faculty of medicine. The university council is quite sympathetic with the proposals of the dean of the faculty.

University of California Medical School

APPOINTMENTS: Joseph L. McCool, associate clinical professor of ophthalmology; S. R. Mettier, assistant professor of medicine and pathology (absent on leave 1929-30); E. Ogden, instructor in physiology; P. L. Kirk, instructor in biochemistry (formerly research associate); Isabel H. Perry and A. M. Moody, instructor in pathology; W. A. Reilly, instructor in pediatrics; D. G. Morton, instructor in obstetrics and gynecology; Werner Schmidt, assistant professor of biochemistry; Minola Stallings, instructor in pediatrics.

PROMOTIONS: Z. E. Bolin, assistant professor of pathology; T. L. Althausen, assistant professor of medicine; R. L. McCalla, assistant clinical professor of medicine; C. L. Hoag, A. R. Kilgore and Wm. B. Faulkner, assistant clinical professors of surgery; L. P. Player and S. Olsen, assistant clinical professors of urology; H. E. Ruggles, clinical professor of roentgenology; L. Bryan, associate clinical professor of roentgenology; R. S. Stone, assistant professor of roentgenology; E. Wolff, assistant clinical professor of pediatrics; Alice Maxwell, clinical professor of obstetrics and gynecology; Dorothy W. Atkinson, assistant clinical professor of medicine; Florence M. Holsclaw, clinical professor of pediatrics; Howard C. Naffziger, professor of surgery; J. W. Shiels, associate clinical professor of medicine; H. E. Miller, clinical professor of dermatology; M. I. Rose, assistant professor of physiology; A. Weeks, clinical professor of surgery; C. F. Gelston and E. B. Shaw, assistant clinical professors of pediatrics; J. F. Rinehart, instructor in pathology; F. C. Linde, instructor in orthopedic surgery; J. W. Crawford, instructor in ophthalmology; C. M. Johnson, instructor in urology.

Personals

Russell M. Wilder, of the Mayo Clinic, has been appointed professor and head of the department of medicine in the University of Chicago.

William Sydney Thayer, emeritus professor of medicine of the Johns Hopkins Medical School, has been appointed Gibson lecturer of the Royal College of Physicians of Edinburgh for the triennial period 1929-31.

Professor Guiseppi Caronia, head of the Institute of Epidemiology at Naples, has joined the staff of the Hooper Foundation for Medical Research of the University of California.

Harold L. Amoss, associate professor of medicine in Johns Hopkins University Medical School, has been appointed professor of medicine in Duke University Medical School.

Ralph W. Webster, clinical professor in medicine in Rush Medical College, was appointed coroner's chemist for Cook County.

Eugene L. Opie, of the University of Pennsylvania, delivered the eighth Harvey Society lecture at the New York Academy of Medicine on April 18. His subject was "The Pathogenesis and Transmission of Tuberculosis."

Professor Edwin O. Jordan, of the University of Chicago, spent February and March in the West Indies as visiting professor. He delivered several addresses to the faculty and students of the School of Tropical Medicine at San Juan and spoke on several occasions before sections of the Porto Rico Medical Association. Dr. Ernest E. Irons, dean of Rush Medical College, also visited the school during February and gave there several lectures before the Porto Rico Medical Association. Dr. Alwin M. Pappenheimer and Dr. F. W. O'Connor, of the College of Physicians and Surgeons, Columbia University, are spending the second semester as visiting professors and are offering courses in pathology and protozoology, respectively. Dr. O'Connor is continuing his work on filariasis.

W. E. Garrey, head of the department of physiology at the school of medicine of Vanderbilt University, delivered one of the Mayo Foundation lectures in Rochester, Minnesota, on the evening of March 29. The subject of the lecture was "The Basal Leukocyte Count and Physiologic Leukocytes."

Albert P. Mathews, professor of biochemistry in the University of Cincinnati, gave a lecture on "The Coagulation of the Blood" on April 23 under the auspices of the Sigma Xi Club of the University of Alabama.

John A. Kolmer, professor of pathology and bacteriology, University of Pennsylvania Graduate School of Medicine, was awarded the Mendel medal by Villa Nova College for his work in immunology. This is the first award of the medal, which was established to commemorate Gregor Mendel, the Augustinian priest whose experiments in the nineteenth century resulted in forming the mendelian principles of heredity.

Ludwig Hektoen, head of the department of pathology in the University of Chicago, was recently decorated with the order of St. Olaf conferred by the king and legislature of Norway for "distinguished service in medical science."

Robert Maynard Hutchins, of the faculty of the law school of Yale University, has been appointed president of the University of Chicago, succeeding Dr. Max Mason.

Albert Warren Stearns, dean of Tufts College Medical School, and professor of nervous and mental diseases, has been appointed commissioner of correction for the commonwealth of Massachusetts.

A year's leave of absence has been granted to Dr. Augustus G. Pohlman, professor of anatomy, St. Louis University School of Medicine, to engage in research on diseases of the ear in Buffalo in a laboratory equipped with instruments of precision on sound physics, and with abundant material available. Dr. Pohlman has studied sound physics for years with the hope of finding a method of alleviating middle ear deafness.

Ernest W. H. Cruickshank, director of the department of physiology and biochemistry at the Prince of Wales Medical School in Batna, India, has accepted the directorship of the department of physiology in Dalhousie University.

Dr. L. F. Barker of Johns Hopkins University, succeeds Dr. Ray Lyman Wilbur as chairman of the Medical Council of the U. S. Veterans Bureau.

Bailey K. Ashford, professor of mycology in the School of Tropical Medicine of Porto Rico, will deliver the Kober lecture at Georgetown University.

Louis Lapicque, professor of general physiology at the Sarbonne, Paris, delivered the Edward K. Dunham lecture at the medical school of Harvard University in May.

Charles L. Mix, professor of medicine, Loyola University School of Medicine, has retired from active practice.

Richard A. Bolt, assistant professor of child hygiene, University of California Medical School, will make a survey, under the auspices of the Montana State Board of Health, of the maternity and child health situation.

P. S. Kupalov, a colleague of Professor Pavlov, Leningrad, will be associated during the summer with Cornell University Medical College at Ithaca, cooperating in an investigation of conditioned reflexes which will be financed by the Hecksher Research Foundation. Dr. Kupalov at present holds a fellowship of the International Education Board. He will conduct a seminar on conditioned reflexes during the summer.

Joseph M. Hayman, Jr., instructor of pharmacology in the University of Pennsylvania School of Medicine, has been appointed associate professor of medicine at Western Reserve University School of Medicine.

H. Raistrick has been appointed to the chair of biochemistry in the school of hygiene and tropical medicine of the University of London.

The degree of doctor of laws was recently conferred by McGill University on William S. Thayer, emeritus professor of medicine, Johns Hopkins University School of Medicine.

George H. Whipple, professor of pathology and dean of the School of Medicine and Dentistry, University of Rochester, was elected president of the American Association of Pathologists and Bacteriologists.

Arthur C. Strachauer, professor of surgery in the University of Minnesota, has resigned to devote his time to cancer research.

William F. Verdi, clinical professor of surgery in Yale University School of Medicine, has been awarded the decoration of Grand Officer of the Crown of Italy for service during the World War.

I. A. Abt, professor of pediatrics in Northwestern University Medical School, has been elected as honorary member of the German Society for Children's Diseases.

J. W. Churchman, professor of experimental therapeutics in Cornell University Medical School, was chosen to represent

the American Medical Association on the Commission on Standardization of Biological Stains.

Lenor Michaelis, of Johns Hopkins University, has been appointed a member of the Rockefeller Institute of Medical Research.

Ray Lyman Wilbur, secretary of the interior, delivered the commencement address at Goucher College.

Lafayette B. Mendel, professor of physiological chemistry in Yale University, has been made a corresponding member of the Société de Biologie of Paris.

Owen H. Wangensteen has been appointed head of the department of surgery in the University of Minnesota Medical School, effective in 1930, to succeed Dr. Arthur C. Strachauer who resigned.

Dr. Carl E. Bachman will soon leave for Bangkok, Siam, to do special work at the Royal Medical College under the sponsorship of the Rockefeller Foundation.

Dr. Robert A. Hatcher, professor of pharmacology, Cornell University Medical College, was awarded the honorary degree of master of pharmacy at the Founder's Day exercises at the Philadelphia College of Pharmacy, February 22.

William J. Gies, professor of biochemistry in Columbia University, has given his library containing more than 5,000 volumes to the University for use chiefly by the medical and dental students.

Dr. Amédée Granger, head of the department of radiology, Graduate School of Medicine of Tulane University of Louisiana, and director of the roentgenray department of Charity Hospital, New Orleans, has been awarded the gold Palmes Universitaires by the French government for outstanding work in radiology.

Dr. Helen P. Langner, Richmond, Va., has been appointed director of the child guidance clinic of Indiana University, Indianapolis, which will be maintained by the Indianapolis Foundation under a bequest by Delavan Smith for two years.

Dr. Allen K. Krause, associate professor of medicine and director of the Kenneth Dows Tuberculosis Research Laboratories, Johns Hopkins University Medical School, Baltimore, has been appointed director of the Desert Sanatorium and Research Institute at Tucson.

William G. Harrison, of Birmingham, Alabama, has been appointed lecturer in the history of medicine in Vanderbilt University School of Medicine.

Hans Zinsser, professor of bacteriology in Harvard Medical School, delivered an address at the recent convocation of the Graduate School of Brown University.

John A. Foote, professor of pediatrics in Georgetown University School of Medicine, has been appointed dean to succeed Dr. George M. Kober, who resigned last fall.

Alan R. Henderson, of the Mayo Clinic, has been appointed dean of the New York Postgraduate Medical School.

Earl T. Engle and Bern B. Gallandet have been promoted to associate professors of anatomy in Columbia University.

Samuel Goldberg has been appointed associate professor of pediatrics in Temple University School of Medicine.

Joseph M. Hayman, Jr., has been appointed associate professor of medicine at the School of Medicine of Western Reserve University.

Arthur Dean Bevan, chairman of the department and professor of surgery in Rush Medical College has given $1,000,000 to Presbyterian Hospital for medical service and medical education.

William W. Graves, professor of neurology and psychiatry in St. Louis Uni-

versity School of Medicine, has been granted leave of absence to conduct a research on inherited variations in their relation to mental and physical adaptability.

Dr. Mary Stevenson has been appointed assistant to the professor of pathology at Dalhousie University School of Medicine, Nova Scotia; Dr. Clyde W. Holland has been appointed to the chair of bacteriology.

Joseph Sweetman Ames, dean of the college of liberal arts of Johns Hopkins University, has been appointed president of the University, succeeding Frank J. Goodman, who becomes president emeritus.

Detlev W. Bronk, Ph.D., has been appointed Johnson professor of biophysics at the University of Pennsylvania School of Medicine and director of the Eldridge R. Johnson Foundation for Research in medical physics.

George H. Whipple, dean and professor of pathology of the University of Rochester School of Medicine and Dentistry, was elected a member of the National Academy of Sciences at the annual meeting.

G. Canby Robinson, director of the New York Hospital-Cornell Medical College Association, has been elected president of the Harvey Society.

Deaths

Arthur S. Lowenhart, professor of pharmacology and toxicology in the University of Wisconsin Medical School, died in April, following an operation for gastro-duodenal ulcer.

Charles E. de M. Sazous, professor of applied endocrinology in the Graduate School of Medicine of the University of Pennsylvania, died April 27.

Daniel S. Lamb, for many years a member of the faculty and vice dean of Howard University School of Medicine and pathologist of the U. S. Army Medical Museum, died April 22, aged 85.

Herman McL. Cameron, lecturer in medical jurisprudence in the University of Manitoba Faculty of Medicine, and chief coroner for the province of Manitoba, died recently, aged 46.

Townsend W. Thorndike, professor of dermatology Tufts College Medical School, died April 5, aged 56.

Breese M. Dickinson, formerly professor of laryngology in the University of Pittsburgh School of Medicine, died April 11, aged 57.

Frederick R. Mason, assistant professor of pediatrics New York Postgraduate Medical School, died recently, aged 35.

Richard G. Podrick, professor of hospital and health administration, Stanford University School of Medicine, died May 2, aged 58.

John Phillips, assistant professor of therapeutics at Western Reserve University School of Medicine, died May 15, aged 50.

Benjamin K. Rachford, professor of dispensary instruction, University of Cincinnati College of Medicine, died May 5, aged 71.

Albert T. Lytle, emeritus professor of medical economics at the University of Buffalo Medical Department, died February 24.

John Francis Cowan, professor of surgery in Stanford University Medical School, died May 17, aged 50.

Abstracts of Current Literature

Relationship of Medical Education to Cost of Medical Care

As at present organized, medical education is costly in time and in money to the student, to the teaching institution, and consequently to the public. There is no valid reason why the medical course leading up to the hospital experience should require longer than three calendar years. There is certainly no adequate reason for the long summer vacation period. Following this three-year period, medical education now requires intimate association with the hospital in the form of an internship or something similar, and close supervision of students actually carrying on the functions of physicians. Just at present there is developing an exuberance in some plans for buildings for medical instruction leading up to the degree of doctor of medicine. In one of our great cities the plan is now going forward for the construction of a plant at an approximate cost of $55,000,000, with the primary aim of undergraduate instruction of medical students. With a striking absence of facilities for the profession to obtain real opportunities for so-called postgraduate training, it seems absurd to aggregate such large sums of money in metropolitan centers for undergraduate medical instruction. No such sums are actually required to give the training necessary. There is no great advantage to the medical student in being in a large, elaborate, highly organized plant. Small classes are requisite for modern medical training. Simple conditions in which the patient, teacher and student can have daily and intimate contact, need not be excessively expensive. It is evident as we look at medical education that there has been an elaboration of plant, a marked increase in expense, an increase in the amount of time required for training, and a general set-up that starts the young physician off comparatively late in life after a large expenditure of time and money. Since the only capital which a physician has is in himself, and the only possession he has is his time, and since life is limited, it is important that a proper scheme be evolved so that medical education may not put too great a cost on the sick. We do not want cheap medical education or cheap men; but we do need and demand all the economies that are reasonable and possible during the period of medical training if we are to solve the coming problem of the distribution of medical service at a reasonable cost to the public. Any one who tries to chart the course of a young physician going into our present economic system cannot help but be impressed with its poor organization from an economic standpoint. It is just as clear that while this lack of organization may make it difficult for the young physician, it makes it doubly difficult for the patient unless he happens to be so fortunately situated as to be empty of pocket or rich. It is clear that medical practice is far behind the plans that have been developed in industry and in many other forms of public service. It will require the most searching study of the facts and the application of these facts in the true spirit of the experimenter if we are to develop conditions that will make it possible for physicians to meet their own problems and for a single illness not to become a prolonged handicap to an individual or to a family. Perhaps there is need in medical education for the training of physicians in the field of economics and social organization. While it is true that the physician belongs to a profession with a long history of service for any one in physical need, it is likewise true that training in the social sciences has not been the strong point of the medical student or of the medical school. In fact, the physical and biologic sciences have taken such a predominant place in the curriculum and in our thinking that it has been difficult to find time for courses for the training of physicians in handling even their simple busi-

ness affairs. Perhaps the medical school is not ready yet to insist on a training in economics, government, political science and history, and the relations of medicine thereto; but unless such training and such thinking are soon started the present chaos in medical practice will inevitably make for high charges on the sick and an inadequate return to the physician. The medical profession must stand for adequate preparation and sound training; but it need not demand abnormal expenditures of time and money to provide elaborate specialized training in all of the fields of medicine for the candidate for the degree of doctor of medicine. Simplification of the curriculum, reduction in the number of calendar years, increase in the hospital opportunities, the adoption of relationships of hospitals to medical practice so that the young physician may receive a salary and yet be connected with hospitals and clinics for further training, will all help to make him more effective and of ultimate benefit to the public.—RAY LYMAN WILBUR, *J. A. M. A.*, April 27, 1929.

Relationship of Fundamental Laboratory to Clinical Teaching

The storm and stress period through which medical education has been passing is largely due to the fact that experimental methods in the medical sciences have begun to come into their own.

While the importance of judgment, personality and character will never be entirely displaced by pure science in the management of patients, enough accurate scientific fact and method have already been introduced into medicine to make a thorough training in the fundamentals from which these facts are derived essential to the development of the personal qualities.

It is the recognition of this situation which has led within recent years to the reorganization of the clinics and the replacement of men who were purely skillful clinicians by teachers who were capable of applying the results of laboratory investigation to the interpretation of symptoms and the rationalization of therapy.

The real problem has been to bridge the gap between the theoretical study of basic sciences and their useful applications to the field of practice.

Through most of these changes the laboratory departments have carried on essentially unaltered, since they attained the dignity of independent teaching units a generation ago, and required little fundamental modification. Yet the introduction of well developed laboratory divisions into the clinical departments has to some extent redefined our obligations and opportunities.

Though we are inherent parts of the university organization, and represent for our several institutions the subjects in which we are engaged, we stand between two extremes—on the one hand, the scientific development of our fields; on the other, their practical applications to an essential profession. With the usually generous resources and academic freedom at our disposal, it is possible to do justice to both. But it is not easy, always, to find the balance between them, particularly because what was pure science yesterday is often practice today and is perhaps obsolete tomorrow. It is charged that we are trying to breed second-rate investigators instead of physicians and surgeons. The suggestion has been made that research and teaching are incompatible and should be divorced; that the fundamental sciences applicable to practice could be taught far more cheaply and appropriately in direct coordination with clinical procedure and therapeutic application.

There are two separate problems involved: one, to what extent the medical student should be taught fundamental principles apart from direct clinical application; the other, in what manner teaching and investigation influence each other.

The medical student who intends to become a practitioner devotes four short years to learning the premises from which all his future reasoning must take its departure. The last two of these are spent in clinics which bridge for him the transition from the principles to their application.

Two years is all that is given to him to acquire an intelligent comprehension of the forces of investigation from which medicine is nourished. How shall we help him to spend this time?

It rests with the laboratories whether the student shall enter the clinic with the destiny of becoming a member of a trade, or of a profession which perhaps more than any other calls for a capacity of growth.

In all this there is not the slightest suggestion of the absurd intention of making our students into investigators, any more than we would be silly enough to expect to make poets of sophomores with whom we might read Keats. We endeavor to present evidence and support it by experiment, instead of pigeonholing and cataloguing the minds of intelligent young men with categorical statements which they would not accept without evidence. For let it not be forgotten that the medical students of today are not apprentices of a trade. They are as a rule fully as intelligent as their teachers—often far more highly trained in the fundamental sciences—and not in any case willing to memorize and chant a medical catechism.

While it appears utterly indefensible to urge any relaxation in the discipline of the preclinical sciences, there may be justifiable differences of opinion in regard to the manner in which our subjects are presented.

While our courses should be scientifically sound and uncompromising in their insistence on the comprehension of principles, it is surely quite possible to achieve this by selecting much of the material from that directly pertinent to medicine, and to correlate experimental data with clinical phenomena.

No suggestion appears to me more likely to defeat its own purposes than the one made by a number of critics that teaching and research be separated. The heart of good pedagogy—teachers' colleges to the contrary—is knowing one's subject.

Teachers who set before their students the warmed-over scraps of other men's thoughts without a spice of their own experience and intelligence to give them flavor can ruin the healthiest scientific appetite and smother enthusiasms that are ready for awakening.

The future of medicine would be ill served were we to turn our students over to pedagogues of science who would teach them the practical technical tricks of mind and hand in the same manner in which trained seals are taught to ring a bell to get a herring.

The remedy does not lie in dissociating teaching from research, since it appears to me obvious that only the most experienced and well informed can properly select from the everchanging and growing materials of a large field those things which are soundly pertinent to medicine, and find that balance between adequate fundamental preparation and specific application which constitutes intelligent teaching.

Although the establishment of clinics with fully equipped laboratories is an obviously desirable thing, this autonomous organization of the clinics has had a certain detrimental contrecoup on the fundamental departments which, with a little wisdom, would seem easily overcome.

A modification of our system which would probably contribute materially to a better coordination between preclinical and clinical teaching would be a method of extending the influence of the laboratories more distinctly into the clinical years. At the present time, in spite of a certain amount of physical diagnosis and ward service in the second year, a student is apt to get the impression that when he passes from the second into the third year he is leaving behind a large mass of material which has been imposed on him as a sort of punishment before he can be rewarded by contact with patients. As a matter of fact, he does leave behind a great many things which he should take with him, and although clinics are well equipped with laboratories, there are few hospitals in which the laboratory methods actually applied to the patients are emphasized to the students except as notes on the charts. It would be relatively easy, with a little more cooperation on the part of the clinicians, to extend the type of joint teaching now

very usefully employed in the clinical pathologic conferences to such subjects as bacteriology and physiology.

Such cooperative teaching would be particularly useful in the fourth year, when a student should be reminded of the fundamental significance of many of the phenomena observed in the sick in a manner which would bring back to him his preclinical training, and increase his interest in the basic understanding of disease.

It is obvious that the twofold functions of the preclinical department are the following: It must represent its subject in a scholarly manner, providing opportunities for advanced training in investigation, and it must be capable of selecting with judgment and common sense the minimum necessary to prepare medical students for a rational clinical education.

A great improvement of conditions has been brought about by the close association of medical schools with universities, and every properly managed department of biochemistry, physiology or bacteriology leans heavily on its colleagues of the pure sciences.

The development of the future should bring about an organization of the preclinical laboratories analogous to that which has occurred in the clinics. Since the medical point of view as an applied science of medicine must be rigidly preserved in order to fulfill the functions of these departments in medical schools, a part of the personnel and, perhaps, the dominating part should have had medical training. But associated with these men there should be others who have been rigidly trained in the basic sciences, who can apply the methods of physics and chemistry to medical problems in a professional manner and preserve medical literature from the output of pseudoscientific dilettantism which is daily increasing.—HANS ZINSSER, Boston, *J. A. M. A.*, April 27, 1929.

Teaching Operative Obstetrics

Before we can hope to give a thorough practical course in operative obstetrics to undergraduate students, we must have much more time alloted to us in the curriculum and much more and better clinical facilities than the average school possesses.

We cannot overlook the fact that at present we have none too many hours to teach the physiology of so-called normal pregnancy, labor, and the puerperium.

Our students must be thoroughly drilled in obstetric physiology. They must be carefully taught to distinguish between the normal and the pathologic. They must be instructed in detail as to the value and importance of prenatal care. They must be taught the fundamentals of obstetric pathology and how to recognize and treat the many deviations from normal physiology. And all this requires time. In fact it requires so much of our present number of hours that we have not the time left for a proper teaching of obstetric operations.

Furthermore, very few clinics approach in size the number of cases necessary to teach operative obstetrics to the average sized class. The teaching capacity of an obstetric patient is greatly limited. Not more than one or two students can secure any valuable instruction in an obstetric operation on one patient. Obstetric operations can rarely be scheduled. The student is not always available at the proper time. For these and other reasons it requires a very large number of obstetric patients to secure adequate teaching in obstetric surgery to an average class of students.

A clinical amphitheater is a help, but merely observing obstetric surgery is not enough.

A combination of obstetrics and gynecology under one head makes for better teaching of both subjects. Obstetrics in its modern and broader sense should include all obstetric operations and pelvic surgery. All else should go to the department of general surgery. Normal obstetrics, obstetric operations and pelvic surgery are inseparable. No one can be considered competent in gynecology who is not thoroughly trained in obstetrics, nor is one properly trained in obstetrics who has not the ability to handle all obstetric operations.

Hence from a pedagogical standpoint

we should not recognize any independent department of gynecology.—A. M. MENDENHALL, *American J. Obstet. & Gynec.*, April, 1929.

Teaching of Pediatrics in a Modern Hospital

The ideal children's hospital for teaching purposes is one complete in all of its appointments. The advantages of a university affiliation are immediately evident. The university departmental faculty becomes available for manning the inpatient and outpatient departments. The size of the faculty will, to a certain degree, be dependent on the basis of apportionment as to full or part-time salaried positions and voluntary services. In my own department our budget is ample to provide for one full-time man with the rank of associate who is second in rank in the conduct of the wards and clinical research for the university hospital and a further full-time resident. two half-time instructors, a social service head, a full-time chemist and an ample nursing force in both the inpatient and the outpatient clinics. Further, the department of health of Chicago provides salaries for one full-time resident and two nominally salaried attending men representing each of the four class A schools of Chicago. Ample facilities for bedside instruction have therefore made it possible to devote 112 or 144 hours assigned to pediatrics to clinical teaching, leaving thirty-two hours for didactic instruction. During these latter periods assigned to didactic instruction and more especially in that part having to do with infant feeding and the nutritional disturbances, illustrative cases are also presented. The inpatient and outpatient attending staffs must be viewed as of equal importance. In the further organization of the department we have attempted to give the younger men who show evidence of a desire to advance themselves every opportunity to make progress. While a general understanding exists that an average of three years should be spent before promotion to higher academic rank is to be granted, this rule has been broken repeatedly when individual aptitude has seemed to make it advisable.

From the standpoint of instruction, the outpatient service ranks first in importance in its relation to the various divisions of the department, because it represents a great laboratory, offering at all times opportunity for special and original research on the patient himself. Here the instructor and the student are placed on their own resources for the interpretation of the evidences offered for diagnosis. In the outpatient service great responsibilities are assumed for guarding the patient's welfare. The student should leave this service duly impressed with the fact that accurate and truly scientific interpretations are possible. His contacts here will duplicate many experiences to be met in private practice in future years. I believe teaching fellows to be necessary to progress in all departments. When of good caliber they reflect credit on the institution and are a stimulus to the student. Their importance cannot be overestimated, more especially in otherwise unsalaried departments. Research is of fundamental importance to the teacher; it inspires the worker and all who come in contact with him. Besides their research, they may be of use in raising the standard of service in the outpatient department.—JULIUS H. HESS, *J. A. M. A.*, April 6, 1929.

Teaching of Modern Surgery

The field of surgery is being extended, but the number of hours assigned to the subject is being reduced. One of the difficulties is bridging the gap between the preclinical and clinical years. This may be done by advancing clinical instruction to the second year, or by giving a series of preparatory or propedeutic demonstrations, which may be preferable because the student's attention will not be diverted from the fundamentals and his attention will be directed to the relation existing between his preclinical and clinical studies. Such a series of demonstrations may be devoted to diagnostic methods, to the action of muscles in relation to the displacement of fragments in fractures, to dislocations and the relation of ligaments to their re-

duction, to the distribution of lymphatics and their relation to the extension of metastatic growths, to bursae, to the significance of pain and its radiation, to general infections—their classification and clinical course—and to tumors. Students would not come in as intimate contact with patients as later, but their attention would be directed to the relationship between clinical and preclinical studies. During the third year students in the dispensary six days a week for eight weeks have concentrated work, and have a chance to follow patients through the course of a disease, and many can be returned to the dispensary after having left the hospital, so that the results of their treatment can be determined A student should be made to feel that each patient is his own and that he is responsible for the case. In the third year an attempt should be made to correlate the clinical and pathological observations, and this should be carried out even more carefully in the fourth year. The student should follow the patient under his care to the operating room, should see the gross specimen when removed and should make a microscopic section and examine it so that he may be able to correlate the entire picture—clinical, gross and microscopic. The patients should be approached from the clinical side and especial emphasis laid on history taking, observation, palpation, percussion and auscultation. The student should attempt to base a diagnosis on clinical observations, resorting to accessory methods only after this attempt has been made.

Pathology is most necessary in the training of a surgeon, and surgical pathology should receive a great amount of attention. Gross material and microscopic sections should be shown so that a definite idea of the gross and the minute may be had. Medical history should be given during the clinics in order that an interest in the development of operative technic may be traced. It may seem useless to cite the names of those who described clinical syndromes or devised operations, but the suggestion of a name may stimulate the student to review the entire history. Two general clinics a week should be given in order to correlate the cases shown in ward rounds and make it impossible for the student to miss an entire subject or an entire group of subjects. The instructor in charge of the course must carefully outline the subjects to be covered and see to it that, either in clinical demonstrations or in formal lectures, the entire field is covered. The intern year should be continuous in one service. Before entering on this, the student should take a year in the study of general pathology or medicine. Provision must be made in the clinic, outpatient department and laboratory for graduates who wish to pursue further studies. Such courses, however, should continue from four to six months, and only those students should be admitted who are willing to spend this time and take seriously the opportunties offered them.—DEAN LEWIS, *J. A. M. A.*, April 6, 1929.

Requirement of an Intern Hospital

Through the Council's own representatives, the first complete investigation is now being made of all hospitals approved for interns, or which apparently are eligible for such approval. The inspections are being made state by state, so that all hospitals may be given uniformly careful consideration. The points to which particular attention is being given are as follows:

(*a*) *Hospital Staff.*—Is the staff composed entirely of reputable graduates of acceptable medical schools, and to what extent are they members of their local, state and national medical societies?

(*b*) *Pathologist.*—Does the hospital have, on whole or part time, the services of a physician who has had the training required for specialization in pathology? Are the tissues removed at all operations examined by the hospital's own pathologist, or, if examined at all, are they being examined by a technician or other person who has neither medical training nor skill? To what extent does the hospital's own pathologist perform the autopsies; and does he present reports of such autopsies at the hospital staff conferences? Is

he the one who, acting directly or indirectly through interns and others, secures the consent of relatives to have autopsies performed? To what extent does he take charge of the clinical-pathologic conferences presented at hospital staff meetings, and to what extent are the conferences interesting and valuable? To what extent is the hospital utilizing the pathologist's services?

(*c*) *Autopsy Room.*—Does the hospital have its own morgue whereby autopsies can be held which can be easily attended by staff members; where better records can be obtained, and where pathologic conferences can conveniently be held in connection with them, or are autopsies held outside in undertakers' establishments or conducted by coroners?

(*d*) *The Autopsy Records.*—Are careful records kept of all autopsies and copies filed with the patients' histories? Is a summary of the patient's symptoms and signs, as a routine measure, compared with the causes of death as shown by the autopsy?

(*e*) *Other Records.*—Are records of all patients kept whereby, at any time, an accurate knowledge can be had showing for any day, week or month the number and type of patients in the hospital and such other information as will at once demonstrate the quantity and variety of material in the hospital and the results of the work done? Do such records clearly demonstrate that the hospital is looking after the interests of its patients and providing for them efficient care?

(*f*) *Autopsies.*—The mere holding of an autopsy does not fulfill the purposes of the Council's requirement. Unless its full educational value is secured, why go to all the trouble of securing the autopsy? Coroners' autopsies held at distant undertakers' establishments are, as a rule, unsatisfactory because, usually, they can seldom be attended by staff members, and because adequate records are seldom kept and therefore cannot be used in connection with staff conferences.

(*g*) *Staff Conferences.*—Are staff conferences regularly held weekly, biweekly or monthly? Are all deaths given discussion at these conferences and, when autopsies are held, are clinical-pathological conferences held in connection with them? At these staff conferences, does the pathologist present reports of the tissues examined, showing how many were normal and how many pathologic? Are records of these staff meetings kept giving fairly complete abstracts of what was done? Are the conferences attended by both staff members and interns, and are the clinical observations of each deceased patient compared with the causes of death as revealed by the autopsy?—N. P. COLWELL, *J. A. M. A.*, March 30, 1929.

Relation of Federation of State Medical Boards to Medical Schools

There has, in the last quarter of a century, grown up carefully constituted machinery for the study of standards in secondary education, in college education and in medical education. The colleges and universities are entirely familiar with the standards of the secondary schools and through their admission requirements are in a position profoundly to influence secondary education. Through various agencies and associations the quality of the work offered in the colleges and universities is now well known and carefully scrutinized.

It thus follows that our knowledge of the standards of education is now reasonably complete and that this work is being satisfactorily done by educational bodies. As a generalization it may be suggested that the medical schools are concerned, and in a satisfactory way, with the business of education and that the state medical boards are concerned with the question of whether the education offered by the medical schools is of satisfactory grade. In the past, and up to the present time, both the medical schools and the boards have been much concerned with the examination of students, the medical school carrying on its examination system throughout the complete four year period, the Boards conducting one or more examinations in order to decide what the equipment of the students really is.

Now, there is a possibility of considerable duplication and the difficulty of conducting examinations which really examine is so great that no one intimately associated with such a business will doubt that any reduction which can safely be made in the examination of students might be desirable. The unit for all educational bodies, and therefore for the medical schools, in this business must of necessity be the student. It is arguable, however, that the unit for the state medical boards might be not the student but the medical schools. The schools assert and believe that they are giving a training at least adequate to the requirements. They are well equipped, through the agencies above referred to, to know the background of their students and to decide whether or not their previous experience has qualified them for their further study. The really difficult problem is the decision of whether or not the schools as at present constituted are in fact giving adequate preparation. Now the state medical boards, and particularly the Federation of those boards, are outside bodies set up by constitutional authority and properly recognized as the last court of appeal. It is at least arguable that they might constitute themselves a body to study not the student but the school. If they should arrive at the opinion that certain schools are in fact giving an education which thoroughly qualifies their students for the practice of medicine and that their methods of examining students constitutes in fact a searching test of their knowledge, they might be willing to accept the opinion of these educational bodies in regard to the qualifications of those to whom degrees had been granted. It is at least arguable that by this method a considerable number of candidates now examined by the boards might be accepted without examination, thereby avoiding what would then appear to be unnecessary duplication. This would leave the boards the necessity of examining only those students coming from schools of whose qualifications they were doubtful, and those coming from schools in other countries in regard to whose standards precise knowledge is not known.

Through the action of several states, a year's internship in a hospital is now required for licensure. That this requirement is sound and that an increasing number of states will deem it essential may be confidently predicted, but it is to be remembered that this requirement has been added primarily by the boards and that it is only in a relatively small number of cases that it is a requirement of the schools or universities antecedent to the awarding of their degrees. The views held in regard to the soundness of the hospital year as a requirement for the degree have been divergent. There is not, I think, wide differences of opinion as to the importance of the requirement but there has been and I think will continue to be much difference of opinion as to whether or not this requirement should be made a part of the work for the degree of "Doctor of Medicine." In other words, no one doubts that the hospital year is an educational year but many people doubt whether it can be wisely included in a medical curriculum. The doubts on this score concern themselves with the technicality of the hospital year but not with the view that it is essentially educational in character. Many medical faculties and university bodies have doubted whether the hospital year could be added to the curriculum without jeopardizing to some extent the dignity of the degree. Clearly the hospital work cannot be under the control of the university to the same extent as the other parts of the medical course. The students in the hospital year are necessarily widely scattered in institutions over which the university has at best shadowy control.

I am inclined to put forward the suggestion that while the hospital year should remain a requirement of the board, that the boards might shift to some extent the responsibility of the standards in the hospital year to the authorities of the medical schools. The boards might possibly take the view that the medical schools should study the qualifications of hospitals as teaching institutions which they are to some extent now doing, in view of their desire to advise their graduates wisely as to their selection of hospitals. As time went on the data accu-

mulated by medical schools in regard to hospitals would, I believe, justify the boards in passing to the medical schools the business of overseeing the educational qualifications of hospitals and to this extent relieve the boards of the necessity of keeping constantly in touch with hospitals widely scattered over the country and whose ability to meet educational standards will be bound to vary more rapidly and probably to a greater extent than any other part of the educational machinery. It is not intended to suggest that boards should divest themselves of any of their legal requirement to maintain standards of medical practice. This they clearly could not and should not do. On the other hand, if it be true that the hospital year is a part of medical education, and if it be true that the medical schools have shown themselves capable of setting up and maintaining sound standards in medical education, advantage might be taken of this ability which would probably have the effect of improving the level of hospital education more rapidly than would otherwise take place.—HUGH CABOT, *Federation Bulletin*, 3:76, March, 1929.

Autopsies and the Hospital Staff Conference

The conference should be limited to one hour. Weekly conferences are preferable. Three or four days prior to the conference a card announcing the clinical diagnosis should be mailed to the physicians and mimeographed copies of the clinical diagnosis, clinical summary and laboratory findings left in the office of the hospital for distribution. The conferences should be presided over not by the pathologist but by a clinician whose medical or surgical skill and achievements are recognized by his colleagues. The clinical chairman should be familiar with the pathological findings so as to enable him to prepare and to present his contribution concisely and within the shortest possible time. The pathologic diagnoses are not divulged until the end of the discussion of the clinical history. This serves to hold and stimulate interest and results in a more free and general discussion. It is advisable to ask beforehand two or three physicians to start the discussion which should include differential diagnosis, questions of therapeutics and criticisms of diagnosis and management. Twenty to thirty minutes should be alloted to the clinical presentation and discussion. Twenty minutes to the pathologist who follows at the end of the clinical discussion. When the pathologist begins the demonstration of the morbid anatomy, mimeographed sheets containing the pathologic diagnosis and the summary of the pathologic findings are distributed. The clinical and the pathologic sheets may be kept as a record of the case by the attending physicians. Gross organs pertinent to the case are shown and the gross morbid anatomy is explained by the pathologist. Lantern slides of essential microscopic changes are flashed on the screen, and the pathologist correlates symtom and morbid change wherever possible. Then, he presents a brief and concise summary of known or latest scientific facts regarding the subject under discussion. The ten remaining minutes are consumed by a general discussion and a general summary by the presiding clinician. Any hospital of one hundred beds can muster material for weekly conferences. Occasionally a conference could be held on a specific topic—such as splenomegalies. Once or twice during the year a conference or two should be devoted to a statistical study.—BERNARD STEINBERG, *J. A. M. A.*, April 27, 1929.

Autopsies and the Hospital Staff Conference

By an interchange of ideas, questions and suggestions, preferably at the autopsy table, many doubtful points regarding diagnosis or treatment, may be cleared up. Much of the success in procuring post-mortems, rests with the resident personnel of the hospital, but the attending physician must also do his share. The chiefs of all departments must exhibit an earnest desire to rectify possible mistakes in diagnosis or treatment, and encourage and stimulate their residents in this respect, instilling into them a pride in their

percentage of autopsy permits obtained. But the man who has the most influence with the person or persons in a position to grant permission for the necropsy, is the family or referring physician. After gaining consent for an autopsy, the pathologist should, if possible, perform the post-mortem at a time convenient for the interested physicians to attend, and in this way, further stimulate their interests in post-mortems. The second essential for the medical checkup and post-graduate instruction is the hospital staff conference. Whatever the general scheme of staff conference, it should not omit a clinical pathologic conference. These conferences, as usually conducted, consist of a brief resumé of the case history, developing if necessary, the reasons for certain diagnoses. The pathologist then gives a brief summary of necropsy findings, with the anatomic and pathologic diagnosis, dilating on the interesting or important points, where necessary. The clinician may then make remarks on the case, viewed in retrospect, and ask the pathologist questions relative to certain post-mortem findings. But the pathologist has never asked the clinician questions pertaining to the diagnosis or treatment of the case in any clinical pathologic conference I have attended. And yet, it seems to me that he is in a peculiarly favorable position for doing so—first, because he knows at least the summary of the case before the necropsy is performed, and can mentally and visually, compare the clinical diagnosis with the pathologic findings; and secondly, because he is usually quite familiar with physiologic functions, normal or pathologic, with the tests used for their estimation, and their interpretation. Clinical pathologic conferences conducted in this manner are extremely valuable for student teaching, because of the logical development of diagnosis and treatment. At the Samaritan Hospital the pathologist was delegated to review all deaths of the previous month, and empowered to call on such men of the staff as seemed in his judgment, the best fitted, to discuss them. Further, he was empowered, and I use the word advisedly, to ask candidly, pertinent questions about diagnosis, study and treatment which occurred to him in reviewing the cases. In reviewing all hospital deaths, certain cases stood out of extreme interest to the pathologist, which did not always come to autopsy, some, operative, in which the result of the tissue examination, or the general condition of the patient, for example, did not seem to warrant the operative procedure, or others in which the final result came as a shock after the apparent condition of the patient on admission. Such charts, then, were selected for secondary discussion, the brief abstract read, and the man having charge of the case, called on for remarks. Not infrequently, these remarks were called forth by questions from the pathologist, raised by certain notations in the history, not borne out by laboratory findings, or vice versa, questions pertinent to the cases which gave the physicians something to start on, or which made them defend their action or diagnosis. The object desired was to evoke free discussion of all possible points raised and give every man a chance to explain or defend his action, or call on him to state his reason for certain procedures. In the beginning particularly, some men took umbrage at certain of the questions asked, viewing them in a purely personal light, as casting reflections on their professional ability. Later, it was appreciated that the questions were prompted from notations on the charts which may have been hurriedly written. Or notes relative to changes in physical signs may not have been added, because of carelessness or haste, which might have an important bearing on the case. Eventually, the staff realized the impersonal quality of the questions and their value for teaching purposes in accurately recording bedside observations. In reviewing all hospital deaths in this way, we found the biggest disadvantage was that the amount of material for discussion could not be completed in the allotted time, except in a hurried and cursory manner. Now we review all deaths, bearing in mind the mortality of certain conditions, questionable diagnoses, autopsy

percentage and other points mentioned. The "Program Committee" selects two or three deaths with autopsies of especial interest for the clinical pathologic conference before the staff. This constitutes the first part of the scientific program. The second part comprises brief clinical reports of current hospital cases of about 10 minutes presentation time. In arranging the program, the committee has been able to select material from the hospital deaths and clinical case reports emanating from different departments, so that the meetings are not one sided, and something of interest to all specialties develops in the discussion at the hospital staff conference. The general opinion seems to prevail that staff conferences conducted in this modified manner, offer a wonderful opportunity to learn from both the living and dead, while the main facts of the case or autopsy under discussion, are still fresh in the memory. —J. H. CLARK, *J. A. M. A.*, April 27, 1929.

Staging a Clinical Pathologic Conference

Cases must be carefully chosen, taking into consideration the needs and desires of the group before which they will be presented. Routine review of all possible cases is usually unwise. Not a single selection should be made unless that selection carries with it a justification of inherent value. Again, too many cases may defeat the very objective which is in mind. It is a rare team that can get the underlying worth out of more than three good cases in an hour, and that only with the best possible management. Two is usually the practical limit and these two well presented, and finished short of the prescribed time, will give more worthwhile mental pabulum than a dozen that, before they are finished, have worn out the long suffering conferees. There should always be an organizer and leader. Whether it is the combined team of clinician and pathologist, or either one of these, someone must plan beforehand, select cases, be sure that the "parts" are assigned and understood and finally direct the production of the review. He should be one who will bring to such a task enough inborn equipment that he may not detract from, and may even add to, the total possible value of the session. The manner of presentation of the history is usually one of the drawbacks to a good conference. A too busy clinician muddling through a sheaf of hospital notes, trying blunderingly to extract the wheat from the chaff and often not knowing what is wheat and what is chaff, offers a picture which embarrasses and distresses both him and his audience. At least he should have prepared a resumé of the clinical data either for him or better, by him, which will carry only those facts proved to be finally pertinent in establishing or disproving a given set of diagnoses. If the clinician may present a sorry spectacle as he vainly tries to thumb his way through a mass of clinical sheets, what shall be said of the pathologist who presents to the group a collection of specimens which are chiefly remarkable for what they do not show. Fresh, bloody, perhaps foully odorous, or reeking with formalin, and leathery in consistence and appearance, they require strong stomachs and the enthusiasm of real devotees before any close examination is possible. Specimens in jars, while usually better prepared, are not much more useful. Specimens can be inoffensively presented if due care is exercised beforehand. First, by careful dissection and glass rods or markers, if necessary, the lesion can be exposed directly to view. Then, if the specimen is run through Kaiserling solution or any of its numerous modifications, the natural colors are fairly well preserved. When the day of their presentation arrives, they are taken out of the fluid, carefully wiped dry of excess fluid and painted, by means of a brush, with a 15 per cent melted solution of gelatin. They may then be placed on a tray for close examination, without offensive odors and in an approach to their natural appearance. The gelatin not only gives them a glistening sheen and prevents drying, but renders it possible to handle them freely without soiling the fingers. Appropriate labels attached to

the tray give the necessary identification and pathologic diagnosis. A still further elaboration of this feature consists of lantern slides made from photographs of significant lesions and exhibited at the time the case is being presented. Microscopic sections constitute a very important portion of the pathologic demonstration. The discussion always should be brief and pointed and eventually should answer as fully as possible the following questions: 1. Was there any mistake in diagnosis, clinical or pathologic? 2. Was there any mistake in treatment? 3. What important conclusion can be made from the present study? Perhaps a referee could be appointed who from a neutral viewpoint might sum up the essential features of the case. All personalities must be meticulously avoided and hence the need of frankness from everyone.—H. E. ROBERTSON, *J. A. M. A.*, April 27, 1929.

Internships in a Teaching Hospital

The intern period should not be an additional year added to the medical curriculum but should take the form of a modified apprenticeship. The work of the intern should be carefully planned and supervised. His stay in the institution should be of a distinct educational value to him. A short stay on too many services does not result in any benefit either to the intern or to the institution. The patient is the unit around which the duties of the intern should revolve. A graded record should be maintained in which the quality of work, both professional and administrative, should be noted. Reports should be made out periodically by a senior member of the staff concerned, and should note in detail the manner of the intern's performance of his professional work. These reports might also include a statement of the intern's conduct, cooperation, executive ability, manner of carrying out orders and aptitude. Such reports should be submitted to the administrative department of the hospital and filed in the records of the institution.—L. S. SCHMITT, *J. A. M. A.*, April 20, 1929.

Suggested Program for an Intern

Recognizing its own shortcomings, the hospital with which I am connected some years ago attempted to develop a program for its resident medical services with the object of providing, in something like an adequate way, the educational and professional opportunities to which it believed the intern was entitled. An announcement setting forth as fully as possible the scope of the service was published and sent out to prospective applicants. The applicant was told what was expected of him and what he could expect of the hospital. It is comparable perhaps with the announcement of the courses of a graduate school. An outline of the services was given; schedules of work were announced; assignment to duties in both the house and the outpatient department were indicated. The methods of selection of various grades of house officers were explained. Educational opportunities both within the hospital and in the community were noted, including staff conferences and medical society meetings. Living conditions including a description of the living quarters and possibilities for recreation were included. The circular was intended to function as a prospectus. It was also intended to partake of the nature of an agreement to which the hospital was definitely committed. If it was formulated for the benefit of the intern it was in no less a sense expected to work to the advantage of the hospital. Experience shows that it has accomplished its purpose.

After a definite course of instruction is worked out for house officers, the next important consideration is the provision of an efficient method of recording their accomplishments and deficiencies while under staff observation. A just evaluation should be a composite of the impressions of all staff members under whom the house officer has served. Otherwise, personal prejudice and bias may defeat the real object of the system, which should be to give a true summary of the professional accomplishments and general fitness of a young man who is preparing himself for the practice of medi-

cine. Our own experience has convinced us that it is equally important to provide the house officer with enough work to keep him reasonably busy and to create a realization on his part that there is some one who is concerned regarding the kind of work which he does and ready to point out his deficiencies. Experience has prompted us to modify our methods from time to time. Fundamentally, we feel that the opinions which are expressed by staff members should be based on definite premises in order to be of value, and the grading system should be simple and readily applied. To meet the first requirement we have divided our blank into two portions, in the first column of which we have listed certain personal and general characteristics which we consider important and in the second column of which we have listed certain professional characteristics that we feel should receive consideration. In order to meet the requirement of simplicity and easy application, we have built the record up in the form of a score card by assigning values to each of the characteristics listed. Reasonable familiarity on the part of the staff with the work of house officers serving under them should enable them to evaluate the characteristics that have been selected. In each of the columns, relative importance is indicated by the relative weight assigned to individual characteristics. A score perfect in all respects is indicated by a total of 100 points, of which 50 points are assigned to personal characteristics and 50 points to professional characteristics. The score card should show the grounds on which the opinions expressed under "Remarks" are based. Whenever a house officer completes a unit of his service, copies of this blank are mailed to all members of the staff under whom he has served. At the end of the year these reports are all consolidated on an 8½ by 11 card with the front printed like the blank; on the reverse side of the card provision is made for entering identification, date, illnesses, vacations and so forth. The information contained on the consolidated report puts the hospital in a position to furnish an unbiased opinion of the house officer's work when this is requested by individuals or by other institutions and has made it possible for us to discover incipient defects in some of the house officers and thus correct them before they have become established. Such criticism has always been well received by the house officers and, what is more to the point, they have made real efforts to profit by such criticism.

In any hospital where interns are utilized there should be second and third year men on the resident service whose influence and activity will mean as much as association with the older members of the staff in teaching methods and inspiring ideals in the younger men. In the first year I believe an intern should be given all he can do. Hard work should become a fixed habit. Cases may be so over well worked up that they become too much matters of academic interest. Leisure for contemplation will more than likely be spent in contemplation not of medical matters but of things which young men just out of medical school are most likely to contemplate. In my hospital we have no rules relating to personal conduct. The absence of a rule can thus never be used as an alibi for conduct unbecoming a physician or a gentleman. If the intern is given his just due, which includes an active interest on the part of the administration and the staff of the hospital in carrying out a definite program, outlined in advance, if he is convinced that he is to be treated as a physician and expected to act accordingly, an individual loyalty and a collective *esprit de corps* result.—C. G. PARNALL, *J. A. M. A.*, April 20, 1929.

Educational Relations of the Professions

Without losing the advantages of specialization I hope that each division of education will afford every other one the advantage of its experiences and that each will welcome—as the Council on Medical Education and Hospitals has always welcomed—the cooperation of other educational units. It is my belief that measuring achievements rather than time will enable us to select men and women

more wisely and also organize our educational divisions so flexibly that the gifted student may proceed more quickly through his formal education; and it is my hope that the new efforts to measure personality will lead to effective character education and that descriptions of personality will aid in the choice of the best men and women for the service of mankind in the ministry, the administration of justice, and the healing of the sick and maintenance of health. I am sure that the schools and colleges can more effectively cooperate with the medical profession in these ways if the profession will teach them what a physician does and is in the terms of the day and in the experience of the leaders of medicine in our country.—D. A. ROBERTSON, Washington, D. C., *J. A. M. A.*, April 27, 1929.

Teaching of Medicine

We do not attempt to show a student examples of every disease described in Osler's textbook.

We try above all other things to teach the student the technic of taking a history, making a physical examination, carrying out the simpler laboratory tests and then, after these details have been mastered, of proceeding to the diagnosis and treatment of the patient. We stress that the physician should first know the symptoms manifested by a patient even if the diagnosis is not apparent, for once he is sure of his observations he can, by reference to his books, usually make a correct diagnosis even when the disease is one of which he has not even heard.

Medicine is not learned by diligent cramming of details over the midnight oil but by what one might term the "episodic method"—the teaching of medicine as a series of episodes, at first perhaps unrelated, but later assuming the appearance of a connected story, or a well rounded experience as the episodes multiply.

When a student sees a patient in the clinic, studies him carefully and masters the details, it is perhaps a single isolated episode.

But as these episodes increase in number his knowledge of medicine grows. And the student begins to think medically.

There is no doubt that medical students, like many physicians, attach undue importance to the laboratory. It all seems to the novice so exact, so mathematically precise, when compared with the more vague clinical impressions, although the careful laboratory worker realizes better than any one else its limitations and pitfalls. These limitations we stress continually to our students, not because of hostility but because of love and respect for the laboratory and our desire to have it fairly judged and not considered as the source of infallible pronouncements.

Clinical instruction in our school begins with physical diagnosis in the second half of the sophomore year. This work is carried on in the dispensary, the classes being divided into groups of from eight to ten, each group being under an instructor. Here we attempt to teach them first normal physical diagnosis and later physical diagnosis in disease. This work continues for one semester, and normal physical diagnosis is most stressed.

The work of our junior year calls for more instruction in medicine. The fundamental courses of this year are physical diagnosis and clinical microscopy. We point out to our students that this is the golden time to learn how to diagnose disease by the methods of physical and microscopic diagnosis and that all else is subservient to these two important factors. We try to have them live in the wards and dispensary and not "waste the hours of daylight in listening to that which they can read by night." There are no didactic lectures during the hours patients are in the medical dispensary.

The junior class, meeting four mornings in the week, is divided into groups of five and six which rotate weekly. One group goes to the surgical dispensary, one group to the roentgenographic department and one group to the medical wards of the hospital, and the remaining five or six groups work in the medical dispensary. From 12 to 1 o'clock on Monday there is a junior medical clinic; on Tuesdays, Fridays and Saturdays the

juniors attend a medical clinic primarily for the seniors. Two mornings in the week, during the first semester, the students work in the laboratory of clinical microscopy.

We emphasize that physical diagnosis is learned only by practice, or what has been termed a "continual hammering away at patients." In our experience the hammering process is best carried out in the dispensary, where most patients are not so ill and where the watchful oversight of eight or ten instructors does not cause any inconvenience or comment. For this reason and because of our insistence that the student must learn physical diagnosis in his junior year, we prefer the dispensary for this instruction and not the hospital wards.

In our senior year the students are divided into three groups which rotate during the year, one group acting as clinical clerks to the medical patients. The student takes the patient's history, makes the first blood and urine examinations, examines the patient with the intern, and acts as family physician to the patient. Each student during the period in which he serves as medical clerk has under his charge from ten to fifteen patients. Three days a week he attends a senior clinic from 12 to 1 o'clock where his own patient may be presented, and twice a week ward rounds are held. In addition to this he spends two mornings a week at a large charity hospital affiliated with the medical school, where he works in the medical wards and attends a medical clinic.

One of the groups spends a morning each week in the contagious disease wards of a nearby hospital, where they have an opportunity of studying patients with measles, scarlet fever, smallpox and other contagious diseases that may be admitted.

Throughout the school year each student spends two weeks in one of the large state hospitals, where he lives as an intern and receives practical instruction in nervous and mental diseases.

The senior students spend the greater part of their afternoons in the dispensary in the neurologic, dermatologic, urologic, gynecologic and obstetric clinics, these clinics being held in the afternoon. Two afternoons in the week they work in groups of six in the special treatment clinic, which is conducted jointly by the department of medicine and the department of pharmacology. The patients are referred from the various outpatient departments to this clinic for intravenous, intramuscular and subcutaneous injections of various kinds. Here the students, for example, administer arsphenamine under the guidance of an internist and a pharmacologist.

While we stress clinical instruction in medicine, if necessary, to the partial curtailment of didactic courses, we believe the latter have a limited but definite place in the medical curriculum. Senior students have two hours of recitation a week in medicine, where the attempt is made to impress more firmly on the student the clinical pictures he has seen and so bridge the gaps in his knowledge by a discussion of those diseases which he has not encountered in the clinic. A similar one-hour course in recitations in physical diagnosis is held weekly throughout the junior year.

The question of the proper textbooks in medicine is a constantly recurring one, and to both student and teacher a very complex and often perplexing problem.

We emphasize to students that medical books are to be used as reference works and not as repositories of medical dogma which must be memorized and defended like the catechism.

An effort is made to show that the clinical picture of a certain patient is the thing to fasten first in one's mind, and then one's knowledge may be extended by reading the composite picture of this disease presented in the textbook and noting wherein the condition of this particular patient resembles the usual picture and wherein it differs.

Students are urged and often required to report to the class the original description of some clinical disease, such as Addison's account of pernicious anemia or Parkinson's description of the shaking palsy. I believe such long tried methods have more than a purely cultural value to students.

Our students are encouraged to read good medical biographies.

This historical method has, to my mind, a great teaching value.

The various complexities of cardiac diagnosis are much simpler to the student if he has some inkling of the problems that have arisen in the life history of these diseases and of the solutions that have been proposed.

The teaching of therapeutics in our medical schools is a favorite target for criticism, particularly on the part of students.

Our students are better versed in diagnosis when they graduate than in treatment because they have had more practical contact with diagnosis and more responsibility for the diagnosis. When they become interns and the responsibility for the treatment falls on them, then their real education in therapeutics begins.

I do not mean that we do not have any courses in therapeutics—we give two hours a week in the senior year—or that a patient is ever presented without the treatment being discussed. But I do not believe the discussion of the treatment makes the same impression on the student as does the diagnosis, for the responsibility of the diagnosis rests heavily on the clinical clerk, while the treatment of the patient is the particular responsibility of the intern.

One lesson, however, we try to impress on the student: that the patient consults him because of pain or discomfort, and that if a cardiac patient is seen in the late afternoon it is more important at that time to give the patient a comfortable night's sleep than to learn whether he has a mitral stenosis or an aortic insufficiency. —RALPH H. MAJOR, Kansas City, Kan., *J. A. M. A.*, April 27, 1929.

The University Hospital, Community, and Practising Physician

Approximately 85 per cent of the patients treated in the University Hospital are those who have been committed by court order. Of the remaining 15 per cent, two-thirds, or a tenth of the entire clientele, are what is known as cost patients. These are individuals who testify that they have sufficient means to pay only the basic hospitalization rate, and cannot afford professional fees. They are admitted only when sent in by their physician, who certifies as to their inability to pay for private professional care. Five per cent of the whole number of patients are private and pay cases —those who can pay a professional fee, either directly to the part time physician whose service they enter, or to the University if admitted to one of the full time clinical departments. It would seem theoretically at least, that there is here a well nigh ideal arrangement for the dual purpose of furnishing skilled and effective treatment to indigents, and of supplying necessary clinical teaching material to medical students. Large numbers, and a wide variety of cases are available. The physical location of such a hospital, in a small city with reasonably convenient access from different parts of the State, on a site which provides a maximum of sunlight and pure air, a system of financing which involves no deficits in operation—all these factors strongly favor such a plan. I am convinced, indeed, that its advantages outweigh its imperfections. It is the belief of the administrative officers of the University and Medical College that enduring success in any state educational program of this kind can be attained only by following policies which will commend themselves fully to the organized profession, and secure their goodwill and active cooperation. The growing discontent with the medical service machinery has been therefore a matter of serious concern to the Board of Education and the University authorities. A series of friendly conferences has been held with the officers of the State Society and with County societies, and the difficulties have been carefully studied. The University's policies and objectives have been restated, and most of the points at issue have been settled. One realizes that changes are appearing all over the country in the conditions under which medical care is provided, particularly for people in moderate circumstances. There is a growing pressure to socialize medicine, to

centralize, to institutionalize, and to subsidize, in the interests of furnishing the great middle fraction of the population with competent care at low cost. Whether or not these pressures will result eventually in a reasonable and constructive medical socialism, it is difficult to tell. Our main concern, in connection with this Iowa plan, is to make certain on the negative side, that it does not in fact invade the legitimate practice of the physicians of the State and that it does not tend to bring about abrupt changes in the social and economic order which would affect the services now given to the community by regular physicians. On the positive side we are equally anxious to develop a system in which physicians will cooperate cheerfully and helpfully: which will supplement their work instead of undermining it, and to which the great state organizations concerned with medicine—the University, the State Medical Society and the State Department of Health may contribute a share in a unified and comprehensive program of curative and preventive medicine, teaching, and productive research. —H. S. HOUGHTON, *J. A. M. A.*, April 20, 1929.

Pedagogic Opportunities of Hospital Staff

Practically all of our medical schools now take the attitude that their curricula no longer prepare for the practice of medicine, but merely lay the foundation for the next step in the education of the medical student, which is serving as a member of the resident staff of a hospital. A resident service in a hospital has been accepted as a definite, indispensable part of medical education. But is the resident service in our hospitals developed in measure proportionate to its recognized importance in the education of physicians? To me it seems that today the hospital service is by far the weakest part of medical education.

The medical schools require now less of specified hours in a routine curriculum and afford the student free time for thoughtful reading and for investigation. The hospital on the other hand is tending in just the opposite direction. The proportion of resident staff to number of patients is increasing very slowly, and the actual amount of routine work done on each patient is increasing very rapidly, while the time of stay in the hospital for this is decreasing. The result is that in almost every hospital, the conscientious house officer is occupied perpetually in routine work, which the less conscientious man shirks and being less conscientious, fritters this time away. In this day and time of mechanical devices to facilitate clerical work, the majority of hospitals still confine labor saving devices to their administrative offices, while patients' records are laboriously and often illegibly prepared in handwritten form. Cheaper labor than that of the college-trained graduate of a medical school should be utilized to afford to the visiting staff easily utilizable records of their patients. No hospital longer should be regarded as satisfactorily organized until it has sufficient clerical force to turn out promptly for each patient a typed history, physical examination, laboratory record and progress notes, made by dictaphone or stenographic process. This should be the first step in providing to the members of the resident staff greater time to carry on their post-graduate education, which is one of the functions of the hospital.

Experience has shown the great importance to the hospital of a super-resident staff. Medical education has improved by giving the student the opportunity to do for himself under trained guidance. Hospitals, in general, are deficient in trained guidance and especially that sort of guidance that would be supplied by a staff of well-trained assistant residents and residents educated in different medical schools and working under the supervision of a competent chief of service and his assistants.

In medical schools the tendency has been to arrange the curriculum to afford more time to the more essential features of medical education and to stress a thorough knowledge of fundamental things at the sacrifice of knowing fewer isolated facts. Many things formerly in-

cluded in the medical curriculum are being eliminated. Just the same process is going on in academic curricula. In hospitals, the short time, mixed service is so diametrically opposed to this trend, that it seems strange that it is tolerated for other than temporary, make-shift purposes instead of being advised by many organizations concerning themselves with hospital improvement. It is my experience that men who have had such short time (12 to 18 months) mixed services actually makes less efficient members of a resident staff than do those who come without mixed service into the hospital direct from the medical school. In other words, not alone have they lost time measured in months, but they have deteriorated by reason of superficial knowledge and poor methods which seem to go with this mixed type of hospital service. This opinion of mine is confirmed by that of others. I know of a surgeon who says that he prefers for his service those men who have had no surgical training beyond medical school training to the men who have had a few months of surgery in a mixed service, even that in his own institution, because the latter have to be untaught so much.

It seems to me that best results are obtained when the membership in the resident staff is not limited to any one school or locality. My own experience has been that too many of my own pupils as members of my resident staff is detrimental to its efficiency, and I can but feel sorry for those of my colleagues whose junior resident staff is composed of a group selected from one medical school on the basis of the quality of medical school work. I feel personally so strong a debt of gratitude to the inspiration I have received in past years from a resident staff selected on the basis of competition from graduates of any medical school, that I should hate to see my selection limited to graduates of my own medical school, though I believe that that particular school on the average gives as good a training as does any medical school.—H. A. CHRISTIAN, *Bull. Am. Coll. Surg.*, January, 1929.

Book Reviews

A Shorter Surgery: A Practical Manual for Senior Students

By R. J. McNeil Love, M.B., M.S. (Lond.), F.R.C.S. (Eng.), with forty-three illustrations including thirteen plates. Price, $4.00. William Wood & Company, New York, 1929.

Into less than 300 pages is presented much information of value to the senior student who needs to refresh his memory on important facts that have to do with the diagnosis and treatment of the commoner surgical diseases. Fractures of long bones are discussed in five pages, but the facts presented are sufficient for review purposes inasmuch as all the important general principles are mentioned. These may be applied to individual fractures. Skull fractures are dealt with quite fully. Operations are described very concisely. On the whole, it is quite astonishing how much real substance has been presented—but it must be remembered that this book can be of value only to those who have previously studied the subject and merely wish to brush up for immediate needs. For that purpose it is a valuable book and should meet with favor.

A Textbook of Medicine

By various authors, edited by J. J. Conybeare, M.C., M.D., Oxon., F.R.C.P. William Wood & Company, New York. Price, $8.00.

An enlarged compend, aiming to provide within as small a compass and at as low a price as possible the essentials of medicine and yet presenting them in a readable manner. It does not presume to teach laboratory methods nor results of physical examinations—the purpose being to supply a sort of multum in parvo. A short description of the more common and important diseases of the skin are included. Diseases of infants are discussed briefly. Diseases such as scarlet fever, smallpox, diphtheria, measles and the like are grouped together instead of being placed among the infectious diseases. Tropical diseases are also placed in a group. No claim for originality of text is made and none is to be found. Whether the book will be as well received here as in England is questionable but the selection of material has been well made, therefore the book can fill a long felt want—more brevity in presentation.

A Shorter Anatomy With Practical Applications

By E. Wolff, M.B.B.S. (Lond.), F.R.C.S., London (Engl.), with 130 illustrations. William Wood & Company, New York, 1929. Price $6.00.

A combined text on ordinary, surgical and artistic anatomy—profusely illustrated by pen and ink drawings made by the author. It is essentially a review of the subject, but lends itself readily for use in the anatomical laboratory as a guide to dissection. The arrangement is good. The black side heads lead one quickly to any desired item. Practical applications of certain lessons are printed in italics. Living anatomy is stressed, as, for instance, the surface form of muscles, the changes they undergo when in action, and the methods of showing them up. Another advantageous plan is the semiregional method of description whereby nerves, vessels, joints, etc., of extremities are done in continuity.

The text is divided into six parts: upper limb, lower limb, head and neck, abdomen, thorax and vertebral column. Bony landmarks of each region are stressed. The student in the clinical year should find this book of value, especially during his hospital clerkship.

Surface Anatomy

By Arthur Robinson, M.D., F.R.C.S., and E. B. Jamieson, M.D. William Wood & Company, New York. Price, $6.00.

Living anatomy appears to be becoming more and more impressive as time

goes on. Superficial relations of deeper structures are emphasized in this book—with the subject lying on his back, the position in which the physician usually examines a patient. The text is divided into seven divisions: head, neck, arm, back, thorax, abdomen and leg. A visual examination of each part is made first and bony landmarks are described next. Only one artificial line landmark is mentioned, the transpyloric plane devised by Addison. The text is condensed, but clear and concise. The convenient size of the book makes it possible to carry it to the bedside when making an examination of a patient.

Pocket Atlas of Anatomy

By Victor Pauchet and S. Dupret. 297 plates. William Wood & Company, New York. Price, $4.00.

The beauty of the illustrations and the careful, legible labelling of each structure free from even a line of text, make this an excellent book for refreshing one's memory in anatomy. It is of pocket size and has a semiflexible cover. No doubt it would prove useful in the clinic as well as in the anatomical laboratory.

Handbook of Bacteriology

By Joseph W. Bigger, M.D., Sc.D. (Dublin). Second edition. William Wood & Company, New York. Price, $5.00.

The chapters on the role of bacteria in health and disease, immunity, food poisoning bacilli, scarlet fever and yellow fever are complete expositions of present day beliefs and as valuable for the advanced student as for the beginner. The book will appeal to Americans because the classification of bacteria recommended by the Society of American Bacteriologists is used. Medical students will find the work very useful.

Diseases of Children

By Sir Archibald E. Garrod, K.C.M.G., D.M., M.A., F.R.C.P., F.R.S.; Frederick E. Batten, M.D., M.A., F.R.C.P.; Hugh Thursfield, D.M., M.A., F.R.C.P. and Donald Paterson, M.D., M.R.C.P. Second edition. William Wood & Company, New York, 1929. Price, $13.00.

British textbooks do not as a general rule meet with as much favor with teachers in American medical schools as do those written by their own group but every once in a while the outstanding worth of a book compels admiration and commendation. The object of this review is such an one. It is a voluminous book—nearly 1,100 pages, so that it is not to be considered as a textbook—but the wealth of information contained therein and the delightful style and manner of presentation make it an ideal reference book, one which the student in the clinic will find exceedingly valuable.

Every one of the twenty-four chapters is written by a master of his subject, presented clearly, concisely and completely. The references at the end of each chapter will be found most helpful by students who have free and ready access to a modern medical library.

The chapter on Feeding, by Cautley and Paterson is extremely well written and interesting but American readers will miss the mention of many well known and popular American made baby foods. Leonard Parsons contributes the chapter on diseases of nutrition. It is complete, yet concise. Unfortunately, he was impelled to mention several proprietaries which we are not yet ready to accept with the same ardor as Parsons does. Sutherland contributes the chapter on diseases and disorders of the heart. He presents his subject from a somewhat different angle than is customary. Symptoms and signs are discussed in relation to their effect on cardiac efficiency, not as individual disease entries. The heart is considered as having three parts: (1) the conducting system; (2) the contractile system, and (3) the valvular system, a seemingly splendid manner of gaining a well grounded survey of heart disease. Metabolic disorders are discussed by Garrod; functional diseases of the nervous system by Cameron; organic diseases of the nervous system by Batten and Wylie; diseases of bones and joints by Rolleston. Poynton contributes an excellent chapter on rheumatism.

The book can be recommended to the ambitious student. Graduate students

will find it a valuable addition to their working library.

Handbook of Surgical Diagnosis

By Clement E. Shattock, M.D., M.S. (Lond.), F.R.C.S. William Wood & Company, New York, 1929. Price, $5.50.

The steadily increasing content of medical courses and the increasing need for conserving time and for giving medical students opportunity for outside reading, has resulted in the production of smaller books presenting in condensed form, concisely but clearly, material that can be found also in the larger multivolume textbooks and reference books.

This particular book covers the field of surgery—sans treatment—being limited, however, to what the author regards as "commoner" affections. In fact, however, virtually all surgical affections are discussed. However, the manner of handling the subject, basing diagnosis on morbid anatomy, gives it a place on the student's bookshelf—beside a larger, more complete, reference work on surgery. As is true of all other books of this sort, it presupposes a wider knowledge of the subject, hence can serve only as a reminder or to make a hasty review of the subject before entering the clinic or the examination room.

A Manual of Helminthology

By H. A. Baylis, M.A., D. Sc. William Wood & Company, New York, 1929. Price, $10.00.

The study of parasitic worms has become an increasingly important part of the training of the medical man who intends to practice medicine in tropical countries. Here is an attempt to bring together on account of the numerous species of worms parasitic in man and domestic animals. The book is profusely illustrated. An unusually fine, well arranged index adds greatly to the value of the book.

Protozoology

By John Gordon Thomson, M.A., M.B., Ch.B., and Andrew Robertson, M.B., Ch. B. William Wood & Company, New York, 1929. Price, $11.00.

Here is presented a short, concise and clear account of the morphology and mode of life of the protozool parasites which are important as the cause of disease in man. Sections dealing with the pathology of the lesions caused in man by various parasites are included.

An Index of Symptomatology

By various writers. Edited by H. Letheby Tidy, M.A., M.D., Oxon., F.R.C.P. (Lond.) William Wood & Company, New York, 1929. Price, $12.00.

The list of contributors to this work is sufficient guaranty of its worth. If there are any omissions they are not apparent on cursory examination. The absence of discussion of treatment leaves no room for argument. The clinical manifestations of each disease are clearly set forth, and the alphabetical arrangement of the subjects obviates the need for an index, although one is provided. The use of blackface heads and side heads, and italics for emphasis is commendable. The numerous illustrations, many in color, are very well chosen and well made. The work covers all branches of medicine, surgery, gynecology and the specialties. Students will find this book valuable.

Surgical Pathology

By Cecil P. G. Wakeley, F.R.C.S. (Eng.), F.R.S. (Edin.), and St. J. D. Buxton, M.B., B.S. (Lond.), F.R.C.S. (Eng.) William Wood & Company, New York, 1929. Price, $12.50.

Pathology is the backbone of surgery. Here the pathology of each surgical disease is traced from its inception. Numerous well made illustrations, many in color, add much to the value of the text. Reading this book, the need for a pathological museum becomes very apparent. A brief review of the embryology, gross and microscopic anatomy of the structure discussed precedes the discussion of its pathology. Space is not wasted by lengthy discourses on theories. Prominence is given to the theory most generally accepted at the moment. The undergraduate student cannot fail to derive much benefit from reading this book.